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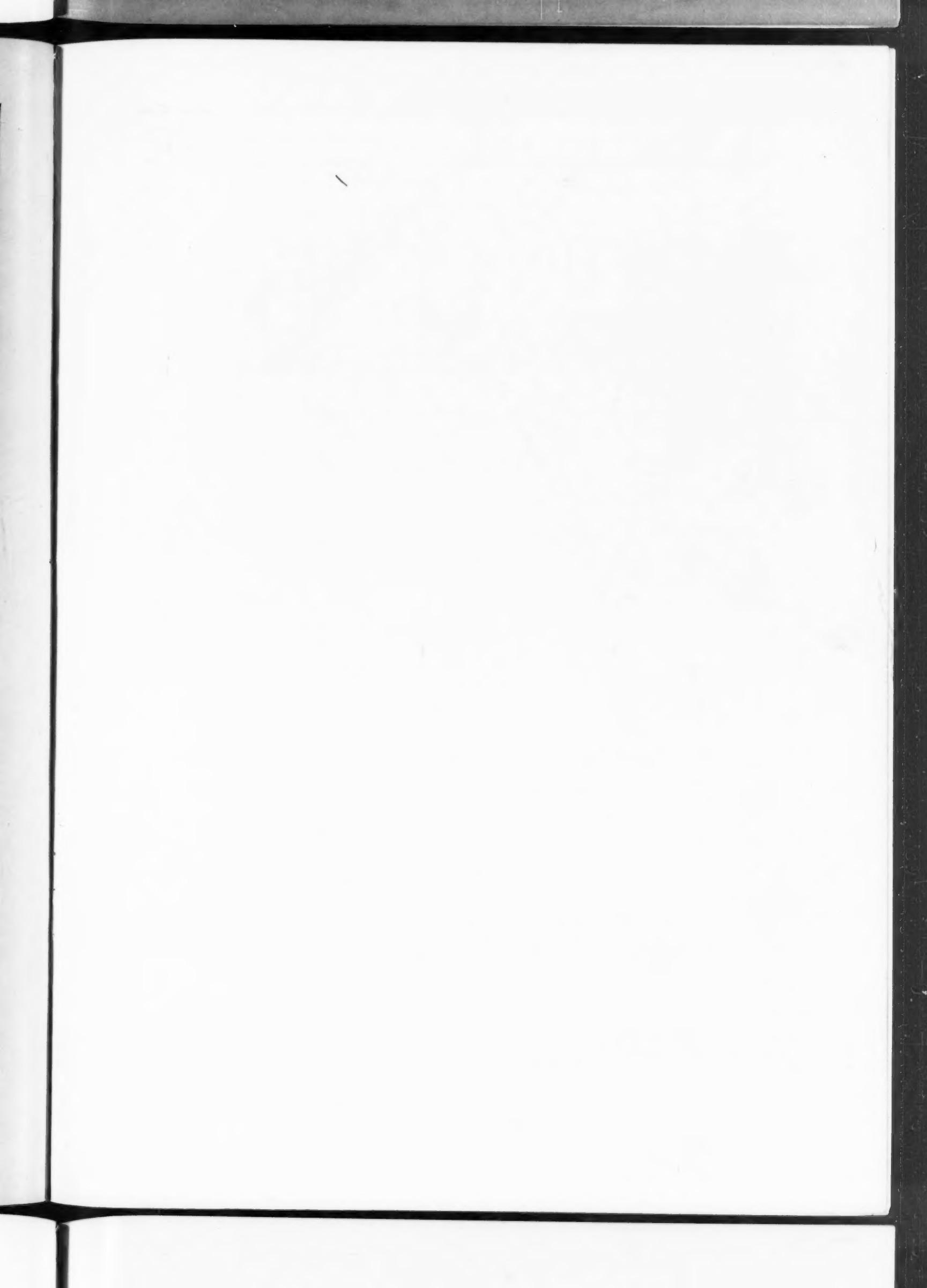
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The ARCHITECTURAL FORUM

VOLUME XXXVI

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NUMBER 4

The Fourth Dimension in Schoolhouse Design

By WILLIAM ROGER GREELEY
Of Kilham, Hopkins & Greeley, Architects

THE cost of construction has decreased during the last two years until today it is again possible to build schoolhouses at something like pre-war prices. Figures received during January on a large, completely fireproof schoolhouse in the vicinity of Boston show a total cost, including work of all trades, of less than 35 cents per cubic foot, as against from 50 to 80 cents for similar buildings two or three years ago.

Construction is just commencing on a contract for a high school in Brookline, fireproof with respect to stair halls, auditorium and corridors, on a basis of about 32 cents per cubic foot. This building, plans of which are shown herewith, is complete in its equipment, and can be taken as an example of thoroughly and carefully studied high school planning. The materials used are the best. All stonework is Indiana limestone, and the brick used

is dense and water-struck. The interior is likewise of the best materials. Another very important point is that the plan is open, arranged around a quadrangle or court. Such a building costs more than one with a cramped or congested plan. The moderate cost is therefore in this case very encouraging.

Under these conditions architects may take new courage and resolve to profit by the reduction in building costs by devoting new energy to the better solution of schoolhouse problems. If it may be so put,—“Now is the time to raise the standards without increasing the cost.” With this in mind, let us review the schoolhouse situation historically and critically and try to find a secure foundation for future professional work.

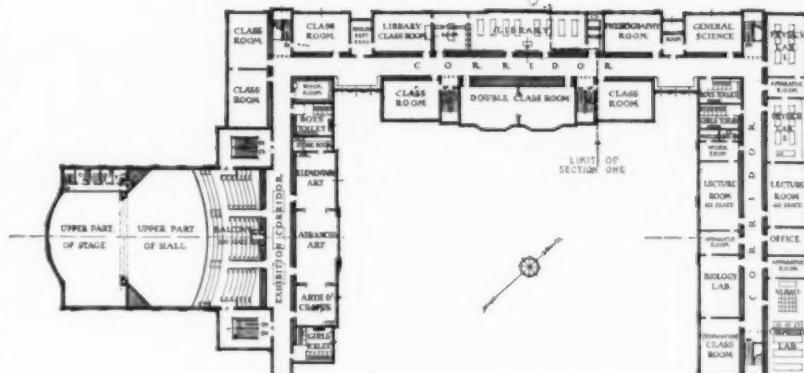
Our grandmothers went to a one-room district school, and sat on benches. When they were study-



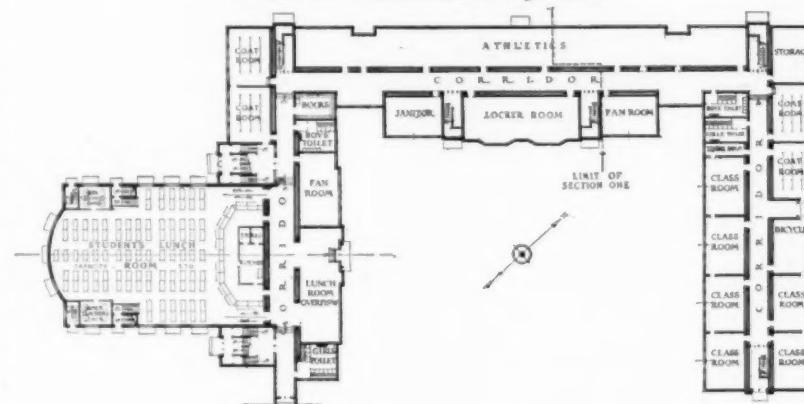
Perspective Drawing, Auditorium Wing of Brookline High School, Brookline, Mass.
Kilham, Hopkins & Greeley, Architects

ing their backs were toward the teacher. When they recited, they threw their feet over the benches and faced the music. The buildings were heated by stoves, and ventilated by cracks in the floors. Very little in the way of "equipment" was furnished or required. The capital invested in the school building was about \$5 per pupil, and the results were measured in 100 per cent Americans, six feet or more in their homespun stocking feet.

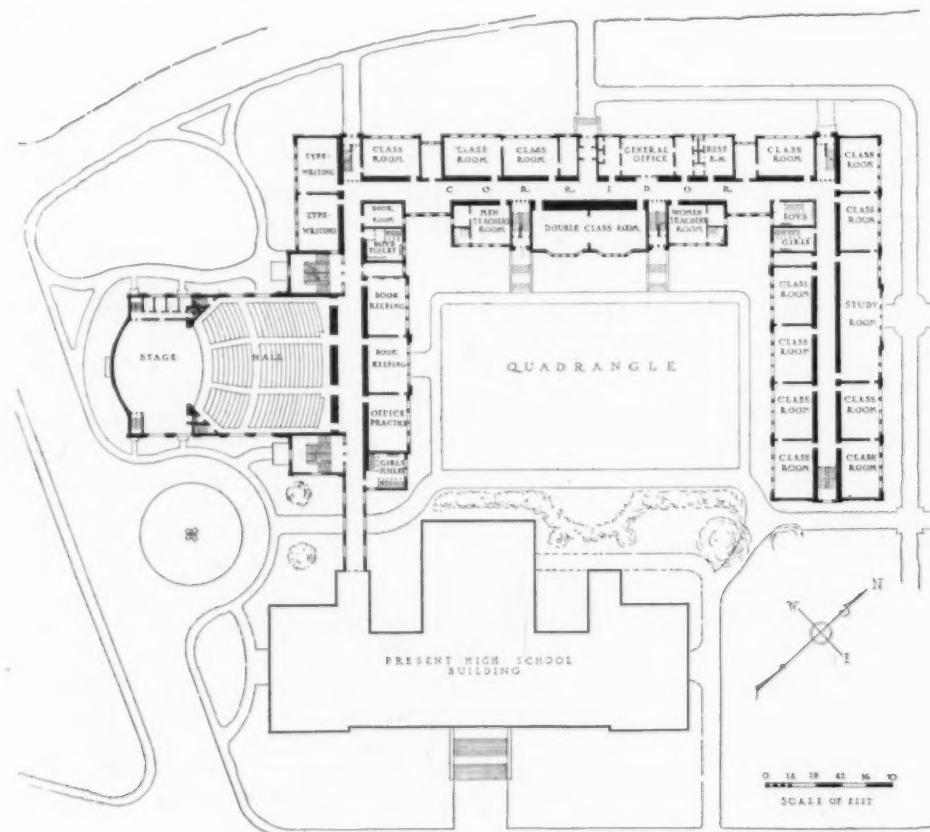
Today we put \$250 to \$500 per pupil into an elaborate building, and it is a question if the modern men and women that we turn out there excel the earlier type; at least it is doubtful if the 100-fold investment produces 100 times as good a result. The old wooden buildings were increased in size in the latter part of the last century, and large new buildings were constructed, often entirely of wood. Here and there one was burned with loss of life. There followed a crusade of building laws which brought about the construction of



Second Floor Plan, Brookline High School



Basement Floor Plan, Brookline High School

First Floor Plan, Brookline High School, Brookline, Mass.
Kilham, Hopkins & Greeley, Architects

buildings that were safe as far as loss of life from fire was concerned. The building laws, however, went further and specified minutely how much air should be provided per pupil, just what toilet facilities were to be furnished per girl and per boy, and many other details of that kind.

"Standardization" then followed and we are still under the spell of this paracea. To what does it lead? Probably the object is to produce a standardized American by the use of new, standardized desks, in a standardized room with standard air at a standard temperature, under standardized teachers whose old age will be pensioned by Stand-

ard Oil. The first weakness is that the effect of standardization is stagnation. Until a perfect form has been evolved, to standardize is to stifle further development. This is the case with schoolhouse design.

The second point of danger lies in the fact that most standards are minimum standards. The tendency of a standard is to seek the lowest level. If, for example, rigid economy during the last few years has forced the adoption throughout the country of 10-foot corridors as the minimum permissible width, 10-foot corridors become the "standard," and are accepted by committees and architects of limited experience as "standard" in the sense of being "ideal," which is really a mistake. Just as long as educational methods themselves are changing, just so long should schoolhouse design continue to change to meet the requirements. Any data, therefore, describing existing schoolhouses, should be labeled "Current Practice Relating to Schoolhouse Design," or "Prevailing Tendencies Governing the Schoolhouse Plan." To describe such data as "standards" is to ossify a growing organism, and to use the term "standardization" suggests some compelling force from above.

All these factors in the schoolhouse problem spell for the architect, and the committee too, hard study and firm courage rather than juggling with standardization. The community that is going to have the best schoolhouses is the one that insists on going over with its architect carefully the educational needs of the pupil, so that in addition to his experience in meeting similar problems elsewhere, he may have the fullest co-operation of all hands in solving the particular local problem. No architect is competent to work out the plan without drawing constantly upon the ideas of the committee and superintendent, with an intimate understanding of the methods of instruction in all its varied branches.

Approached in this way, one problem will be solved in one fashion, another differently, and all communities will profit in the end by the diversity of solutions. Through standardization, all design becomes flat and stale, and finally unprofitable, as standardization is the acceptance of existing mediocrity as a criterion of excellence. Through individual study and experience comes a diversity that lends zest to the solution of the problem and hastens the millennium. The art must be kept plastic, and not be allowed to solidify. So completely is this the case that the well-meant restrictive laws or "standards" of the last two decades are now a serious impediment to progress. The futility of endless legislation is nowhere more glaringly evident than in the field of schoolhouse design. It would seem unwise to add to this mass of legislative restriction a new load in the form of "standardized requirements."

During this period of development in educational methods, planning must develop too, and this can be accomplished not by the "adoption" of "stand-

ards," but by the constant "application" of "common sense" to schoolhouse design.

The application of common sense to present-day schoolhouse needs discloses many simple truths. Here are some of them:

1. The average community is growing. It is not enough to plan smugly a single building. Consideration of future school districts, and enlarged capacities of present buildings, must form part of the program. A study of the school situation throughout the town is usually required before approaching the individual schoolhouse problem.

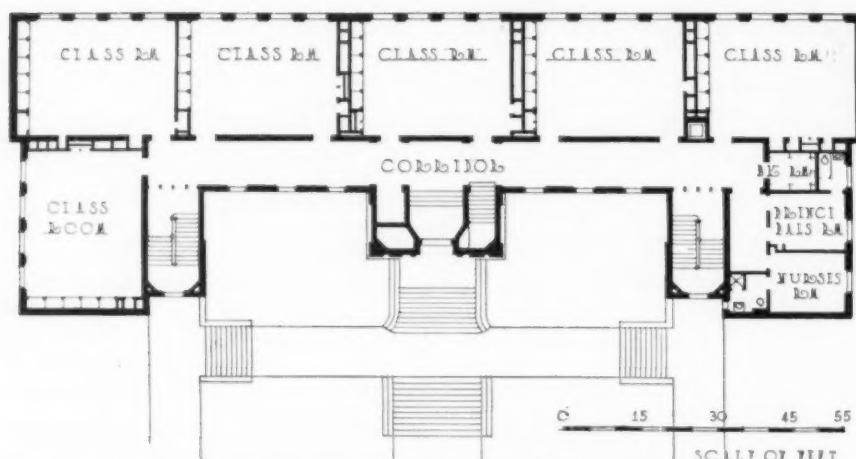
2. Teaching methods are changing, and knowledge of how to teach has outstripped financial ability to pay. Therefore buildings should make easy the gradual future subdivision of classes to meet requirements already set down as necessary. Classroom spaces should be subdivisible at will into different sized units.

3. Subjects of instruction are changing. Rooms should therefore be readily convertible from one use to another.

4. The point of view on life as a whole is changing. It will soon be considered as defeating one of the great advantages of education if children must be sent to spend their days in a purely mechanical building without any redeeming graces of color or



Michael Driscoll School, Brookline, Mass.
A design to accord with residential character of community
Kilham & Hopkins, Architects



Floor Plan of School for City of Boston, Recently Contracted for Less Than 35c. per Cubic Foot
Kilham, Hopkins & Greeley, Architects

proportion. The illustration of the Michael Driscoll School shows an attempt in a residential neighborhood to avoid the "packing box" type of school building by the employment of such features as a pitched roof and a bay window in the corridor, neither of which is a "standard" form. The extravagances of the bygone florid period of schoolhouse design are not to be commended, but the idea is constantly and rightly gaining ground that *cultivation* as well as mere *education* is our next objective and, as far as the appropriation will allow, a schoolhouse should have an open, airy, cheerful and homelike effect, even if a certain factory-like "efficiency" is impaired.

It should be both: (1) Agreeable in appearance, though not necessarily monumental, and

(2) Of such a type of construction and finish as to avoid a large expense for upkeep and repairs. And herein lies one of the most important points of the "fourth dimension." How many committee men, when they are about to select an architect, are carried away by colored pictures and plausible talk about "standardization," thermal units, single-floor plans, and so on, which the facile salesman uses to divert attention from the fact that in his past work his roofs leak, his floors sag, and his pipes freeze? And how many are willing to take the trouble to find out personally whose buildings are intact after five or ten years, and whose have had so much repairing that little remains of the original structure?

In the development from the old wooden building to the present highly standardized and "efficient" schoolhouse, much of the cheerfulness and comfort of the older building has disappeared. In the modern schoolroom, with close ranks of monotonous desks screwed to the floor, windows confined to one wall, and the other walls made gloomy by great expanses of blackboards, there is little to cheer the teacher or the pupils. Some possible advantage may be argued on the score that such rooms by their ugliness may increase the pupils' love of home, but on the whole they leave something to be desired. The physical needs are seen in

a new light. The deadly draught is becoming less of a bugaboo. Unvarying temperatures are now admitted to be enervating. The standard room with its standard amount of steam-dried air, dependent for its circulation upon closed windows, will before long cease to satisfy us. It is no longer considered wise to transfix a child at a desk through hours of instruction. Even the old method allowed him to kick his feet over the bench when he recited. The need of some physical activity to

keep the mind alert has begun to be felt. To the requirements just enumerated there is sometimes added the selection and development of a site, and all these possibilities are dependent upon the purchasing power of an appropriation that is usually insufficient in amount.

In some communities, very careful studies have been made to determine questions of location, probable future growth of population, etc., and have resulted in four things:

1. Great saving in time.
2. Considerable economy in cost.
3. Avoidance of bitter and prolonged dispute.
4. A much better educational plant.

After the site is selected, the questions come on the orientation of the various rooms, and the fixing of the location of the building on the lot. The exposure most desired for class rooms is southwest. The accompanying plan for a schoolhouse now under way for the City of Boston shows an arrangement in which all class rooms have sunny exposures, and most of them face southwest.

After proper study of these preliminary matters, the detailed working out of the plans becomes a matter of logical sequence. When the plans have been drawn and the building completed, comes the time that the architect is most likely to fail in his professional service. In moving on to new fields, the completed work of the past is forgotten. This is wrong. An occasional visit to a school building, already completed and in actual use, not only assists the client, but is the only way in which the architect can know how his buildings "wear." The upkeep of a school building requires a large sum, at best. By keeping informed on matters of renewal, painting, etc., the architect can learn to specify the materials that will be most economical in the long run by giving better wear.

In view of all these considerations, it is therefore true, paradox or no paradox, that the most important service of an architect is that part of his advice that comes usually before he is employed, and that part of his inspection that comes after he has been discharged.

Baroque, Justice and Common Sense

PART II

By COSTEN FITZGIBBON

IT would be equally diverting and illuminating to trace the career of each great baroque architect, to note his chief performances, and appraise the value which his individual efforts added to the sum total of baroque development. Such a critico-biographical method of pursuing the subject, however, would require a generous sized volume in order to cover thoroughly even a portion of an amazingly prolific period of architectural history, so that notwithstanding the many allurements of intimate insight it would afford, we must here content ourselves with a more condensed body of careful generalizations.

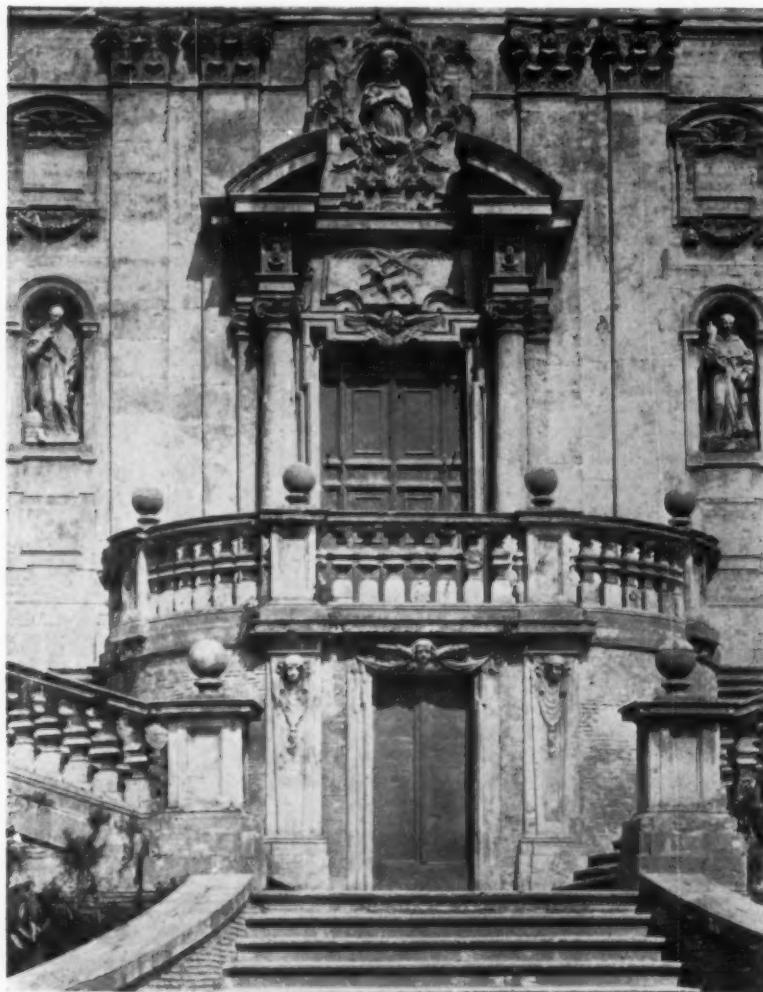
Whether in our researches we follow the detailed plan of investigation just alluded to or whether we survey the field in the more general and impersonal way, we cannot fail to become fully aware of an ever broadening rift between the two main streams of architectural ideals and manners of expression from about the middle of the sixteenth century onward. As the high renaissance merged into the late renaissance one school of architectural thought tended to become more and more academic and to attach increasing emphasis to the value of ancient precedent. Following in the steps of such masters as Bramante, Baldassare Peruzzi, the Sangalli and their compeers, and emulating their ardor for classic research, their successors exercised their genius in an unfaltering quest for purity of form, as they conceived it, and in devising fresh combinations of orthodox classic motifs and methods of composition to fit the specific requirements of their own generation. To this persistent and conscientious endeavor to vitalize the heritage of classic antiquity we owe the noblest works of Palladio, Samichele, Sansovino and the lesser men who followed in their train. No matter what may be one's personal convictions or degree of sympathy towards the attitude of these pre-eminent exponents of classicism, it must be admitted that they displayed no little originality in the manipulation of the resources to which they

voluntarily restricted themselves, availing themselves of reasonable interpretative liberty.

The other school of interpretation, while not at all condemning the treasures of the past nor assuming the pose of revolt that deliberately casts tradition and precedent overboard, nevertheless chose to use precedent in its own free and eclectic manner and to employ the "properties" derived from antiquity according to the untrammeled promptings of its own robust and exuberant invention. As previously noted, this movement—the baroque style—which made itself appreciably felt in the latter part of the sixteenth century under the guidance of such men as Giacomo della Porta, Domenico Fontana or Buontalenti, ran a parallel course with the late renaissance school for a time, though ever growing more distinct from it, and



Fontana dell' Acqua Felice, Rome, about 1590
Designed by Domenico Fontana



Detail of Facade, Church of San Domenico e Sisto, Rome
Designed by Vincenzo della Greca

gradually increasing in force eventually won complete ascendancy in the seventeenth century, an era not inappropriately termed the baroque age. The baroque influence continued to be a lively force through part of the eighteenth century, but after its meridian was passed we need not expect to find in it the same vigor and spontaneity it exhibited at an earlier date. It is to the seventeenth century that we must turn for the best and most characteristic examples. During the period of incipient baroque, when the two streams of thought were getting farther and farther apart, the classicists as heirs and guardians of renaissance tradition stood for the integrity of conservative principles; the baroquists were the liberals. It is our present concern to analyze carefully the dominant tendencies of this second or baroque stream of architectural activity, to mark its commonly distinguishing characteristics, to observe the methods and aims of its representative exponents, to point out its concrete achievements in the path of architectural progress, and to indicate certain particulars in respect to which we are today its debtors.

Two external influences gave the baroque trend so much impetus that it is imperative to take cog-

nizance of them. In the first place, the period embraced by the latter part of the sixteenth century and the greater part of the seventeenth witnessed the accumulation of vast wealth and great estates in the hands of the Roman nobles, the holy see, the cardinals and other dignitaries of the church and those who in one way or another were attached to the papal court. It was a conspicuously ample and expansive age, a time of broad conceptions and also of ostentatious and lavish expenditure. Under the grandiose sway of paramount Spanish influence, ecclesiastical and secular dignitaries alike vied one with another in their liberal patronage of architecture and the allied arts. Fortunes were on a scale unprecedented since the days of imperial Rome and the extent of the undertakings conceived by the possessors of these fortunes corresponded with the sizes of the fortunes themselves. It was but natural that architecture should be made to accord with the magnitude of the conceptions it was employed to embody in visible form. In the baroque manner the princely patrons of architecture found an apt instrument for the expression of their ideas of imposing magnificence. Never did any form of architecture more faithfully or more completely reflect the spirit of that age in which it was developed; never did any age

more whole heartedly support and foster the growth of an acceptable manifestation of contemporary architecture. Architecture ministered to and encouraged the ambitious plans of its patrons; the schemes devised themselves fed architecture and spurred the imagination of the architects to new flights. Each element of the dual combination nourished the other and we behold a phenomenal display of complementary interaction. Both elements were causes, and both were likewise effects.

The second external factor that contributed impetus to the baroque movement was the counter reformation. The members of the Society of Jesus charged themselves, as one of their special obligations, with the revival of religious zeal and the stamping out of heterodoxy. Their well directed and unremitting labors produced amazing results in reawakening religious consciousness and fervor among the masses. They plainly saw, however, that it was not enough merely to overcome religious indifference and rekindle the smouldering fires of faith; it was necessary by some outward and visible symbol to give the people a permanent reminder of the authority, might, majesty and splendor of the church. The baroque form of architecture was well

adapted to this end. The company of St. Ignatius Loyola seized upon it as an opportune instrument, invested with an appropriate appeal to the senses, and forthwith reared the great churches that characterize the era, or refronted old churches with baroque facades. This they did not only in Rome, but throughout Italy, throughout Spain, and in the countries beyond the Alps. Even in Latin America this type of ecclesiastical architecture left its indelible impress. So numerous were these edifices, newly built or refronted, so rapid was their multiplication, and so intimately identified were they with the activities of the Jesuits that baroque architecture has often been styled "Jesuit architecture." The type of church chosen by the Jesuits at the counter reformation continued in favor long afterwards and bore witness to their presence in widely scattered localities.

So much for the two outside forces that served in so great a measure to popularize the baroque mode. So much, likewise, for the spirit informing the style. It now remains to examine somewhat the substance with which that spirit was clothed, that substance which has so frequently been the target for bitter animadversion on the part of unfriendly critics.

If the seventeenth century—the baroque age—was a period of splendid amplitude, it was also a period of license and daring initiative in nearly every phase of life and, consequently, in those forms of art wherein the life of the time found its readiest expression. This being the case, it was inevitable that excesses and indiscretions should occur in current architectural exploits, incidents that baffle any logical attempt at justification. But such incidents, it should be remembered, are only incidents and of a superficial nature that should not affect our mature judgment upon the real character of the great body of architectural production of that period.

Objections to the baroque style, based upon these occasional excesses and absurdities, we need not undertake to answer. It would be idle to do so. Other objections, less captious perhaps, and made with more honest intent, must likewise be left for the individual reader to ponder over as he examines the first hand evidence which the buildings themselves supply. It does not constitute a valid and final condemnation of baroque architecture in general to assert that it

was vulgar, bombastic, ostentatious and self-conscious; that it was boisterous, bizarre and disorderly; that it was coarse in its details and affected in its manner of ornament; that it was sensuous and voluptuous and even grossly sensual; that it was immoral in spirit and devised by libertines for libertines; that it was, in short, the work of a degenerate age without manners, morals, or even rudimentary good taste. These, and like cavils, voiced by some whose inaccuracy brings them perilously near the bounds of arid dullness, may be merely noted and allowed to go at that. How much weight is to be attached to them, the reader who conscientiously surveys the field can judge for himself. Let us turn quickly from this negative sort of carping—it is not worthy the name of criticism—and address ourselves to considerations of a more positive and constructive character.

Among the more outstanding positive phenomena to be discerned in a general scrutiny of baroque architecture, five major points challenge our attention. They are so insistent that we cannot escape from them. We find (1) the almost universal



Interior, Church of the Gesù, Rome
One of the best examples of the baroque, and attributed to Vignola



At Left, Santa Maria di Loreto, Rome, Begun in 1507 by Sangallo the Younger; Portal and Lantern by Giovanni del Duca, 1580.
At Right, Santissimo Nome di Maria, Built 1738

prevalence of noble and monumental scale; (2) complete symmetrical conception of comprehensive and connected schemes of composition, in contrast to the more or less fortuitous and piecemeal methods that often obtained at an earlier epoch; (3) the high value attached to the dramatic element and its development to a degree previously undreamed of—at least since the days of the Cæsars; (4) the ingenious elaboration of divers and remarkably effective plan forms, and (5) the undeniable ad-

vances made in connection with garden design, with vastly enlarged scope of treatment. It is scarcely too much to say that in the work of the baroque age is to be found the beginning of modern architectural conception, at any rate so far as our larger and more monumental undertakings are concerned.

It would of course be unreasonable and rash to claim that the baroque architects were the first to inaugurate the use of heroic scale—there are too many notable instances of far earlier date—but they unquestionably developed and generalized its use, employing its resources to dignify even their domestic work. In this connection, Martin Shaw Briggs pertinently observes that "the most important aspect of baroque architecture in Italy . . . consists in a power of monumental planning and arrangement which is rather a gift than an exact science. Up to late renaissance times men still lived in crowded alleys within the mediæval city walls. With the dawn of the seventeenth century appears a desire for more space, and notably for sufficient space to enable a building to be properly seen. All the finest *piazze* in Rome date from this period, and in Genoa was laid out the first street where æsthetic considerations were apparent." What was true of the ability of seventeenth century Italian archi-



Detail of Doorway, Santa Maria di Loreto, Rome

tects to plan monumen-tally was likewise true of their close students and admirers, the French architects of the same period, who were profoundly influenced by what was going on in Italy and drew thence the chief essentials of their inspiration. The situations of many of the important buildings evince not only the love and appreciation of a fine position but also a rare genius for making the most of it. Incidentally, in the disposition of such civic adornments as the Spanish Steps in Rome or the Fontana dell' Acqua Felice, we not only have ample evidence of a keen understanding of the value and proper use of heroic scale along with imposing site, but we can also trace the incipiency of coherent town planning.

Closely allied with the thorough understanding and habitual use of heroic scale was the devising of symmetrical and comprehensive compositions, often of very considerable extent, whether in city or country. Individual units, instead of having their individuality emphasized, were subordinated to an

all-embracing scheme of design, thus securing an appreciable gain in breadth and spaciousness of aspect. Without entering into the causes back of this particular development of baroque architecture, it will be sufficient to call attention to the impressive and harmonious *ensembles* thus produced, to note that the cue thus given in Italy was promptly taken up and followed in France, with what distinguished outcome under the liberal patronage of Louis XIV we very well know, and to point out the singular inconsistency of those who willingly admit their deep indebtedness to Le Notre, Le Brun or Mansart while, in the very

same breath, they revile the "accursed" Bernini and Borromini with all their unholy baroque crew.

The stress laid by its authors upon the third distinguishing characteristic of baroque architecture —its dramatic quality—brings us at once to a bone of contention. In a large number of cases the dramatic quality attained was the result of deliberately striving for effect, a procedure which critics,



Detail of Facade, Santa Maria in Vallicella, Rome
Designed by Martino Lunghi the Elder



At Left, Santa Maria di Monte Santo, Rome, 1662, Designed by Carlo Rainaldi. At the Right, Santa Maria dei Miracoli, by Rainaldi; Altered by Carlo Fontana, 1663

and especially unfriendly critics, are wont to brand as illegitimate. Nevertheless, the baroque architects did strive for effect. What is more, they achieved it, and they achieved it in a notable degree, as their works bear eloquent witness. On this same score of striving for effect are based the charges that instead of ornamenting structure, they created structure to carry ornament; that they were untruthful and did not externally express the plan or purpose of a building; that they confused and misapplied ornament, exaggerated the scale of details, and practiced deception in materials; that, in fine, they committed all the seven deadly sins and several more besides.

Now the exaggerations of mouldings and other details, of which the critics complain, were in some measure due to the nature of the coarse grained travertine which was unsuitable for the execution of smaller scaled items. The close grained *pietra serena* of Florence lent itself to more delicate manipulation, but Tuscan baroque architecture lacks the force of Roman. The delight of big, vigorous forms could readily be realized in travertine, and the material itself doubtless encouraged the use of such forms and strong details, over and above the important consideration that they rendered the composition of a building, when seen from a distance, more articulate and impressive in definition. As to the confused and misapplied ornament in the shape of superfluous pillars, entablatures and pediments, it must be admitted that baroque interpretations in this respect did not accord with scholastic usage. At the same time, we should

remember that these erstwhile structural features had long since lost their strict structural significance and had really become to a great degree decorative conventions. To the seventeenth century architect, therefore, it seemed quite permissible to introduce a fresh, and what appeared to him a more satisfactory, way of marshaling these conventionalized forms. The "deceptions" in material and the "untruthfulness" of expression were not deceptions. A deception is not a deception unless there be present the intent to deceive. The so-called deceptions were meant merely to please the eye. There was in them no intent to deceive, nor did they deceive anyone.

The foregoing discussion does not pretend to be a vindication of baroque architecture. Its purpose will be achieved if the reader is moved to pursue for himself *in extenso* an investigation of the work of the baroque age; to apply the methods of justice and common sense in formulating his judgments; to admit our present indebtedness to baroque precedents where such admissions are due, and to refrain from a prejudiced blanket condemnation of a great epoch on the strength of the indefensible excesses perpetrated by its most extreme exponents. The baroque movement was not an insincere manifestation got up merely to satisfy a factitious enthusiasm for inordinate display. An intelligent acquaintance with baroque architecture, even though we may not elect to follow its practices to any great extent, is needed as an antidote to the constriction of ideals apparent in certain quarters today.



Stairway and Fountain, Villa Lante

Domestic Architecture of Henry Corwith Dangler, Architect

HOUSES DESIGNED BY DAVID ADLER AND HENRY Dangler

THE last decade in the growth of American domestic architecture has witnessed a distinct change in the manner with which architects approach their problems, and this together with a public more appreciative of good architecture is the main reason for the great advance in quality this period records. Architects of today are perhaps not producing buildings that may be labeled distinctly American, in fact this was one of the qualities that might be applied to the work at the end of the last century, but it surely had little else to commend it. The work of recent years has been based on a more scholarly study of precedent, confined largely to the English work of the eighteenth century and the simplified version of it found in our own early American buildings. American living conditions, social customs and climatic requirements are more or less unconsciously affecting the American interpretation of earlier precedent, and we are slowly developing different types of architectural expression in domestic work that will eventually be recognized for their distinctive American characteristics. Styles cannot be created by simply wishing for them, and our domestic art will eventually be on a far higher plane because of the restraining influence of precedent

which is increasingly in evidence in today's design.

Many architects adopt a definite style and, particularly in domestic work, confine their work to that style. This tends, of course, to producing perfection in the handling of detail and scale, but it has also the possibility of limiting the exercise of imagination with the result that the architecture produced becomes over-refined, academic and lacking in those qualities of charm that come from less restricted efforts. Working in a number of styles with a well grounded familiarity of the basic principles of each develops an eclectic taste which is of the greatest value in producing architecture that has the spirit and charm of the definite period, yet is free from pedantic copying.

The houses illustrated here present an excellent example of this modern American tendency in house design. These buildings are unmistakably American, yet they present a wide variety of styles and each possesses that individual charm of ensemble and detail that makes us admire the originals of the period. They are all derived from renaissance sources, and thus are based on a common classic tradition, yet in such widely separated versions of the classic as late English Georgian, Louis XV and Italian renaissance.



The Late Henry Corwith Dangler



Group of Houses in Chicago of Mrs. Arthur Ryerson and Messrs. Abram Poole, Henry Dangler and Ambrose Cramer



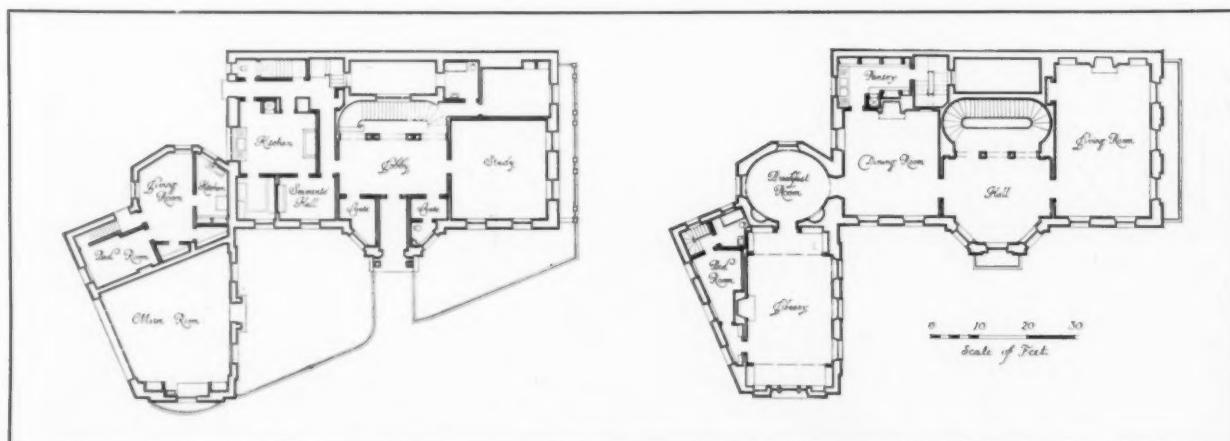
Detail of Main Facade, House of Henry Corwith Dangler, Esq.



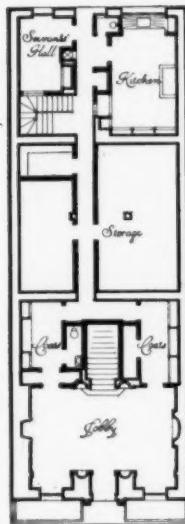
Detail of the Ryerson House

These houses are the product of the office of Henry Corwith Dangler, architect, Chicago, and were designed by David Adler and Henry Dangler. Both designers received the training of the Ecole des Beaux Arts and have been associated since the beginning of their architectural work until the death of Mr. Dangler in 1917. He is remembered for a delightful personality, a keen sense of the beautiful and a great capacity for work. Besides his ability as an architect he possessed a distinct literary gift, satirical and whimsical. The

joint work of these designers shows an architectural conception based on a delightful sense of order and proportion; nothing has been left to chance,—character of ornament, composition, scale of mass and detail have all had minute consideration. This thorough study of detail has been made against a background provided by an understanding of the spirit of the styles, and the buildings have a spontaneity of treatment that can be achieved only when the basic principles of a style are known and accepted. It is only the thoroughly grounded student



First and Second Floor Plans, House of Mrs. Arthur Ryerson, Chicago

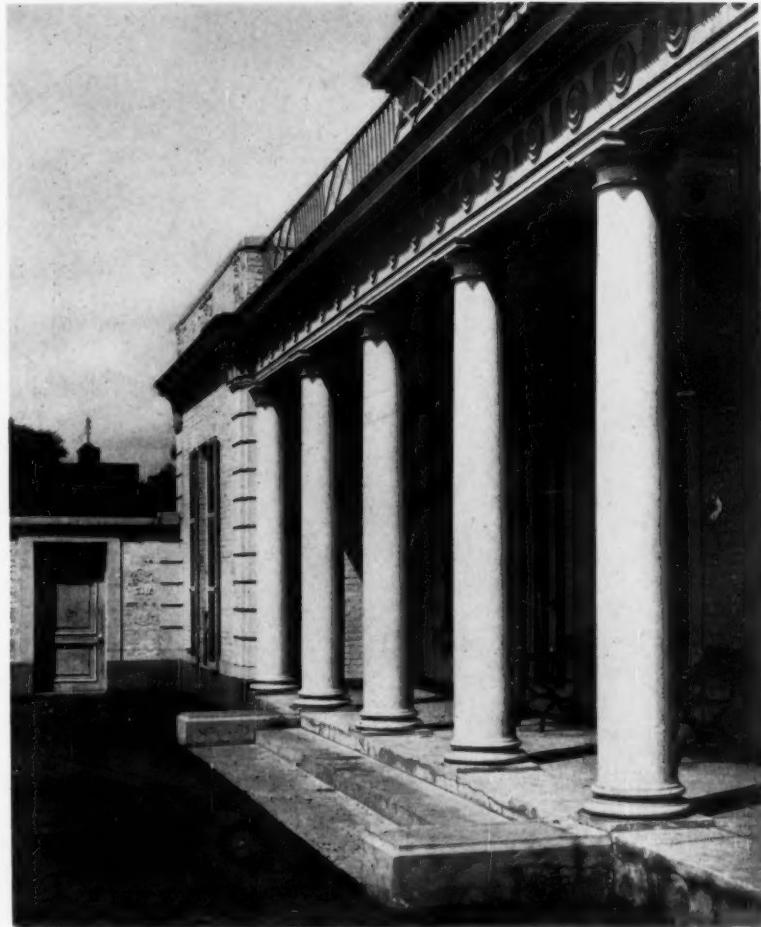
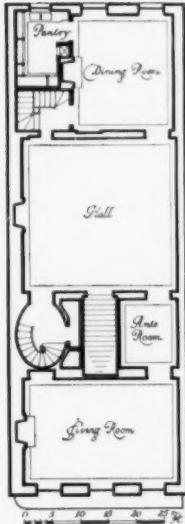


First and Second Floor Plans

House of Abram Poole, Esq., Chicago

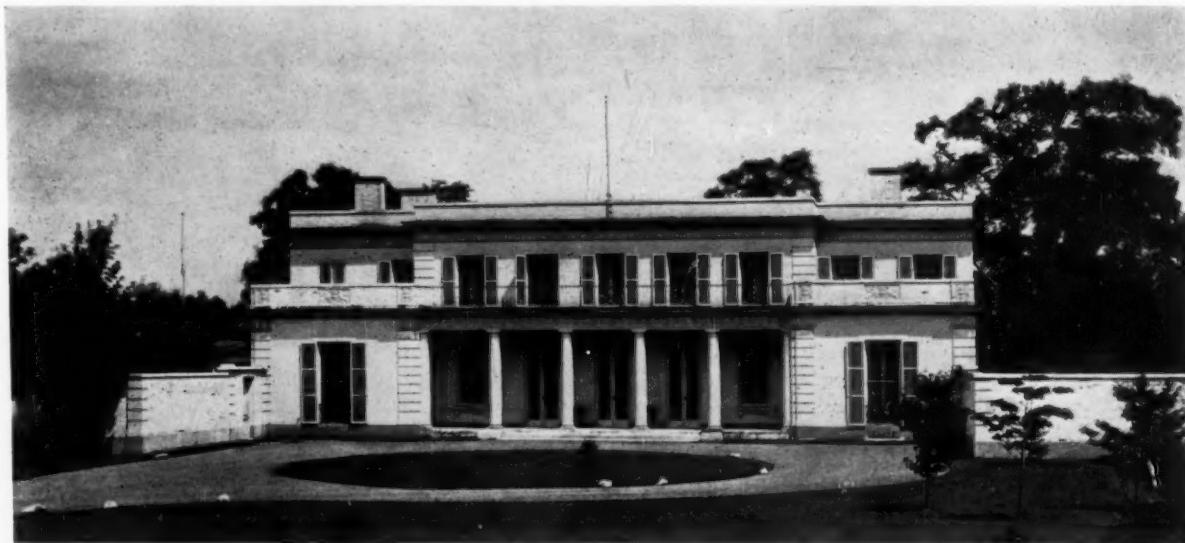
of a style that can safely depart from the letter and preserve the spirit of a past building tradition. Thus is the style made to live again and adequately meet new conditions. This is perhaps most markedly illustrated in the delightful house of Louis XV inspiration for Ralph Poole at Lake Bluff. This has the charm and spontaneity of the wonderful French houses of the period, yet it meets American conditions perfectly, it is admirably suited to its site and in every essential respect is an American house, an excellent example of period adaptation.

Equally characteristic is the handling of the group of four city houses in Chicago. Here special opportunity for the consistent treatment of the major part of a block facade was enjoyed through the



Detail of Forecourt Entrance, House of Benjamin Nields, Esq.

co-operation of a group of friends in building adjoining houses. This fact made an architectural treatment in the manner of the late eighteenth century houses of London particularly appropriate, because the restraint and quiet formality of the style have



View of Main Facade on Forecourt, House of Benjamin Nields, Esq., Rye, N.Y.



Entrance Loggia, House of Charles Burrall Pike, Esq., Lake Forest, Ill.

an opportunity in the larger mass to be appreciated to a greater extent than when compelled to compete for attention with adjoining buildings of more inconsistent and larger scaled parts.

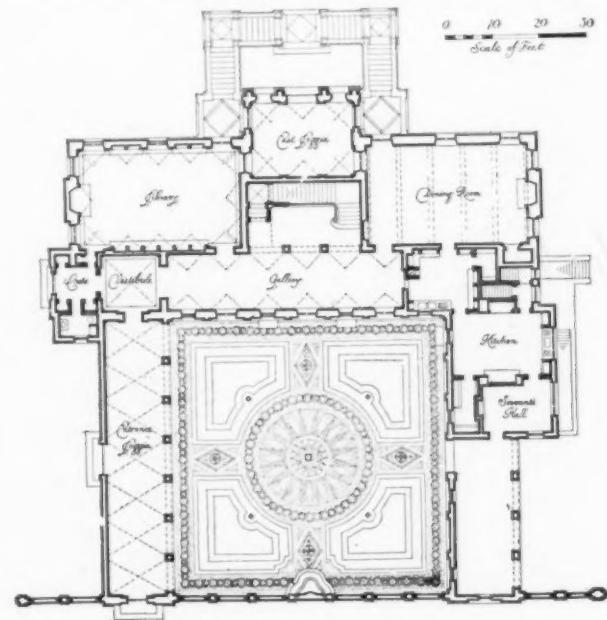
In these houses we see in both exterior and interior treatment the influence of the style developed by Robert Adam and his brother. To them we are indebted for an original and delightfully domestic manner of handling classic detail that is as eminently suited to use today as when it was originally conceived. They have bequeathed to us a series of models of doorways, fanlights, mantels and ceilings that cannot be improved upon for their purposes. But here again the designers of these Chicago houses have impressed their own individuality of treatment in the facades and interiors. The spirit is distinctly Adam but there are directness and simplicity in their handling of composition and detail that produce a spontaneity of conception far removed from careful reproduction.

There are four houses in the group, similar in materials and style but with considerable variation in size. The exterior materials are dark red brick laid in Flemish bond with black headers and light colored mortar joints; the trim is light colored stone; sash and frames are painted cream, shutters green, iron balconies and fences black. The entrance doors are mahogany. An interesting detail of the houses is a community heating plant which is

owned and operated jointly; each owner paid the initial cost in proportion to the size of his house, and the expense of operation is charged proportionally according to the amount of radiation in each house.

The plans are arranged to give prominence and a formal treatment to the second floors. There is likewise an agreeable sense of spaciousness even in the houses covering but a single lot. This is especially true in the case of the house of Abram Poole. Entrance is directly into a large hall with an interesting and restrained Adam treatment of decoration. The walls are painted light green, the floor is light toned terrazzo with marble border, and the room is completed with an interesting series of niches and a simple grouping of furniture of particularly graceful design. The wide stairway between walls, directly opposite the entrance, leads to the main hall in the center of the house which is given unusually ample proportions because of the employment of overhead lighting. This room is severely classic and suggests

the dignity and architectural character of the early Georgian. The floor is black terrazzo with inlaid brass bands; the walls are paneled and painted in two tones of gray. The doors are mahogany with carved mouldings. The furnishings are selected from early French, Italian and English periods and



Main Floor Plan, House of Charles Burrall Pike, Esq.



Garden Facade, House of Ralph H. Poole, Esq.

complement the architectural feeling of the room admirably. The dining room is especially bright and interesting in its color treatment. The walls are light green with wainscot and trim painted cream color; a gilded moulding outlines all the features of the room. The mantel is of Adam inspiration in white and Siena marble in contrast.

Two interiors are illustrated from Mrs. Arthur Ryerson's house, the largest of the group. The living room is in Georgian character, the detail and ornament reduced in scale to accord with the room size. The walls are paneled and painted a mellow green, and the decorative recesses for books are fitted with metal grilles. The dining room is extremely simple in its decorative treatment. The walls have large recessed panels formed in the plaster and are painted in biscuit color with the ornament of cornice and mantel and panel mouldings in a lighter tone.

The Charles Garfield King house, also in Chicago, is larger than those in the group but it indicates the same restraint in design. The exterior has a facing of Indiana limestone on the first story with dark brownish red brick above. The iron fence and balconies are painted dark green. The plan indicates generous sized rooms and the ceiling of the principal floor is high to contribute to the spaciousness. The excellent scale and dignity of the rooms on this floor may be noted in the view of the main hall. This room has a black terrazzo floor with brass inlay and walls painted a light green color, contrasted with the cream tone of the cornice and trim. The living room is a well studied interior based on English rooms of the period of Wren. The walls have the typical heavy moulded panels

and a carved overmantel, worked from pear wood. The paneling is painted a dull green with ornamented members in gold. Furniture and hangings are well chosen to accord in character with the architectural background.

The country houses designed by Messrs. Adler and Dangler are of no less distinction than their city houses. None of the houses illustrated is large, yet they have been successful in imparting to them unusual garden settings, charming vistas and spacious suites of rooms that are ordinarily achieved only in houses of far greater area. The Charles Burrall Pike house at Lake Forest shows well the imaginative quality that underlies their work. It is an ingenious grouping of an Italian paved court with a house of modest dimensions that gives an effect of great space. The lot on which it is located is shallow and borders Lake Michigan. The court with solid walls toward the road was designed to afford privacy. The sunken garden at the rear was the foundation of a former house, through which a cut was made

Detail of Entrance Facade on Forecourt
House of Ralph H. Poole, Esq., Lake Bluff, Ill.



Stair Hall in House of Ralph H. Poole, Esq., Lake Bluff, Ill.

extending it to the lake. The walls of the house are of brick coated with a very thin plaster wash; the trim is Indiana limestone and the roof of pinkish colored tiles. The interiors are patterned after the simple Italian manner with sand finished plaster walls and walnut woodwork, unstained and oiled. The floors in the rooms illustrated are of black terrazzo.

The Louis XV house at Lake Bluff was designed to give emphasis to long horizontal lines because of

its position on a ridge of land. The exterior is plaster with cast cement trimmings; the roof is covered with gray slate, and ironwork is painted black. The interiors are decorated and furnished consistently with the exterior and indicate the satisfactory qualities to be gained from a restrained use of Louis XV motifs and details. The library is a small room paneled in natural gum; the music room is partially paneled, the wood-work painted yellow with green lines, the rest of the walls being covered with old yellow damask.

Two interiors from the house of Joseph M. Cudahy at Lake Forest are also shown. These are suggestive of Louis XVI and are excellent examples of the modern handling of this very finished period. The hall is built around a series of old French grisaille

paintings with blue borders which are set in the paneling. The floor is black terrazzo and the base marble. The morning room has particular charm with the suggestion of the Empire style appearing in some of the furniture. The walls are painted cream and the floor is laid with hexagonal red tiles.

In all of these houses the interior design and the decoration and painting of walls have been a part of the architectural service, and in many cases the designers have suggested the schemes for furnishing.



Dining Room in House of Mrs. Arthur Ryerson, Chicago

APRIL, 1922

THE ARCHITECTURAL FORUM

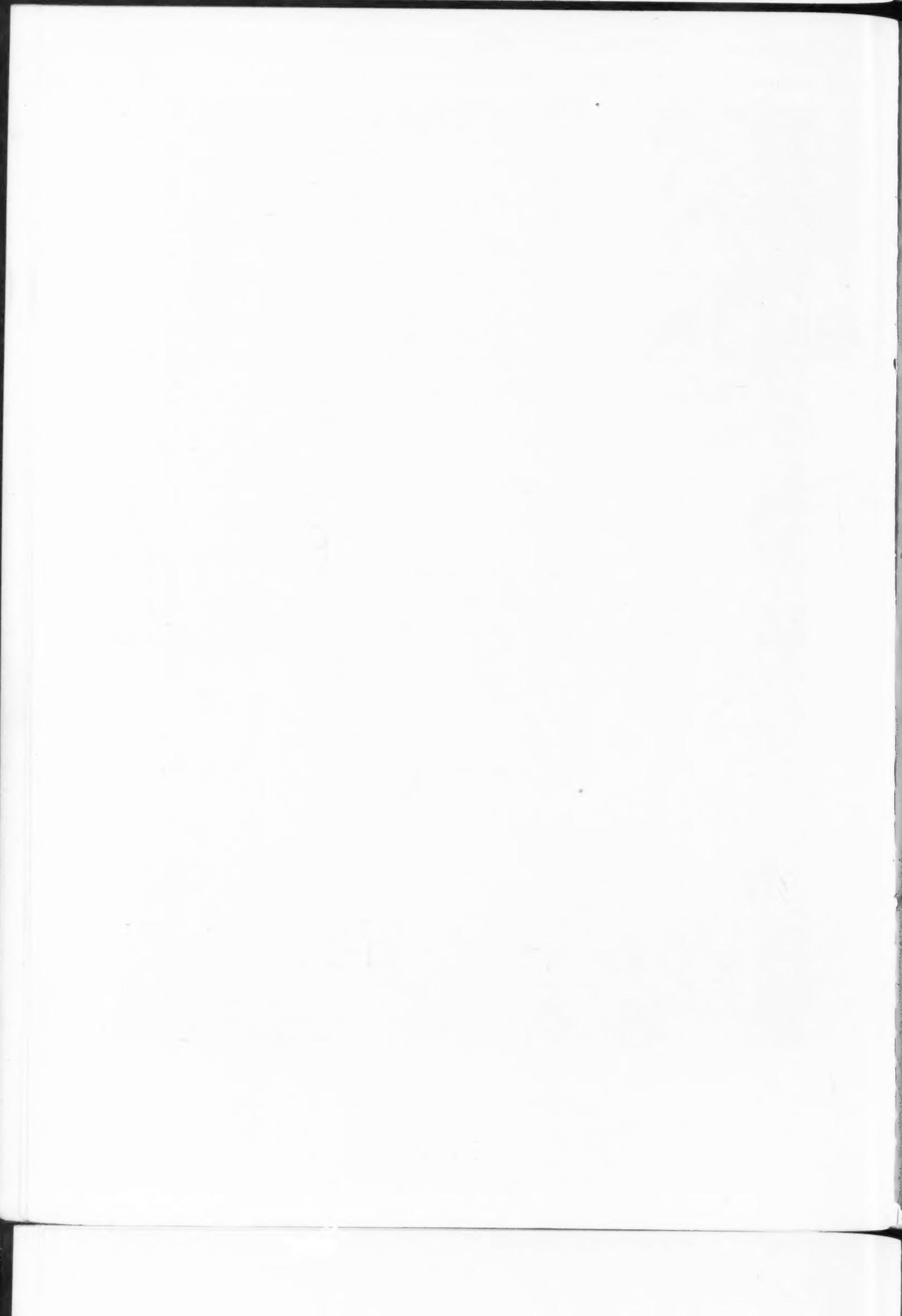
PLATE 49

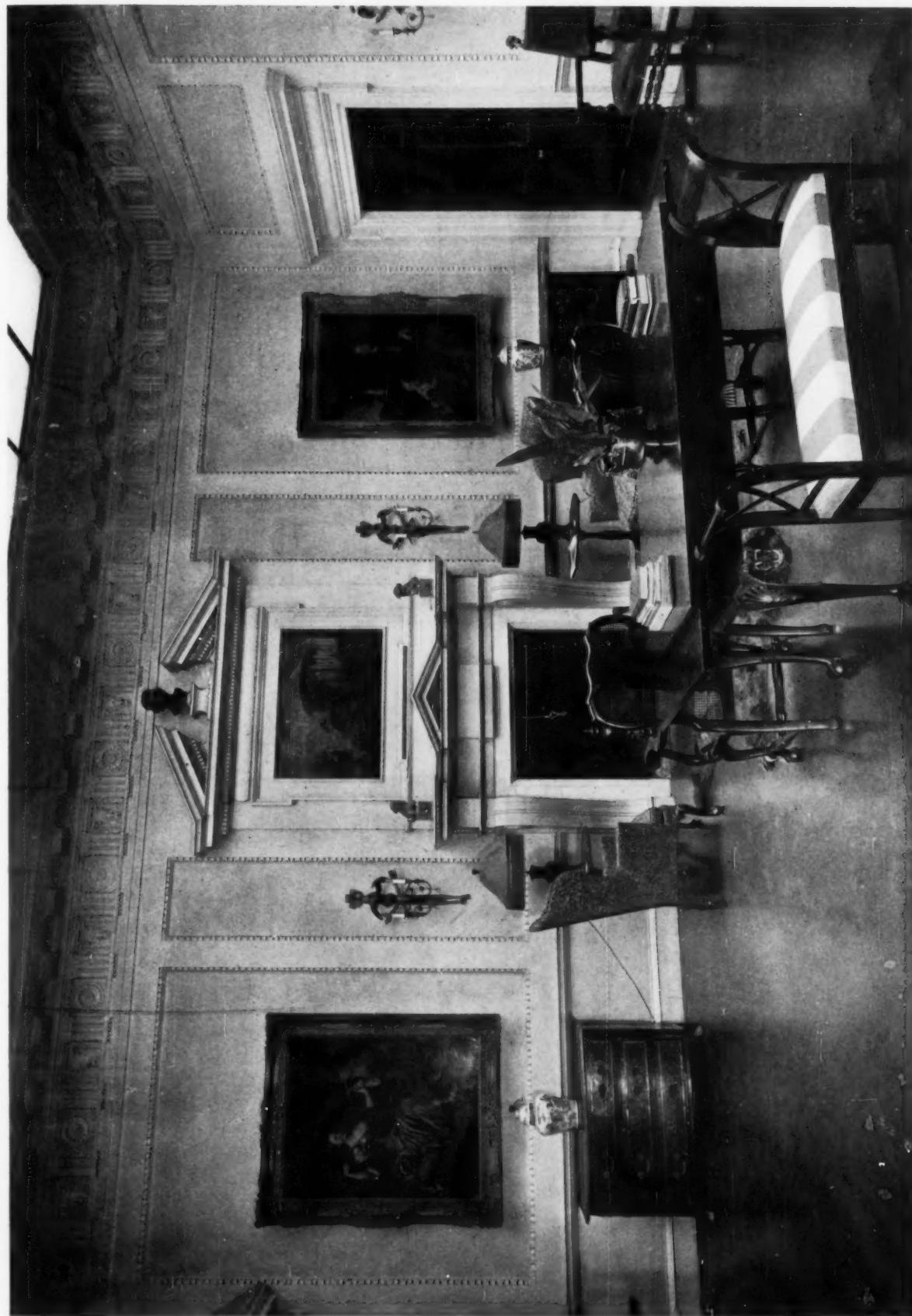


DETAIL OF ENTRANCE

HOUSE OF ABRAM POOLE, ESQ., CHICAGO, ILL.

HENRY CORWITH Dangler, Architect
DESIGNED BY DAVID ADLER AND HENRY Dangler

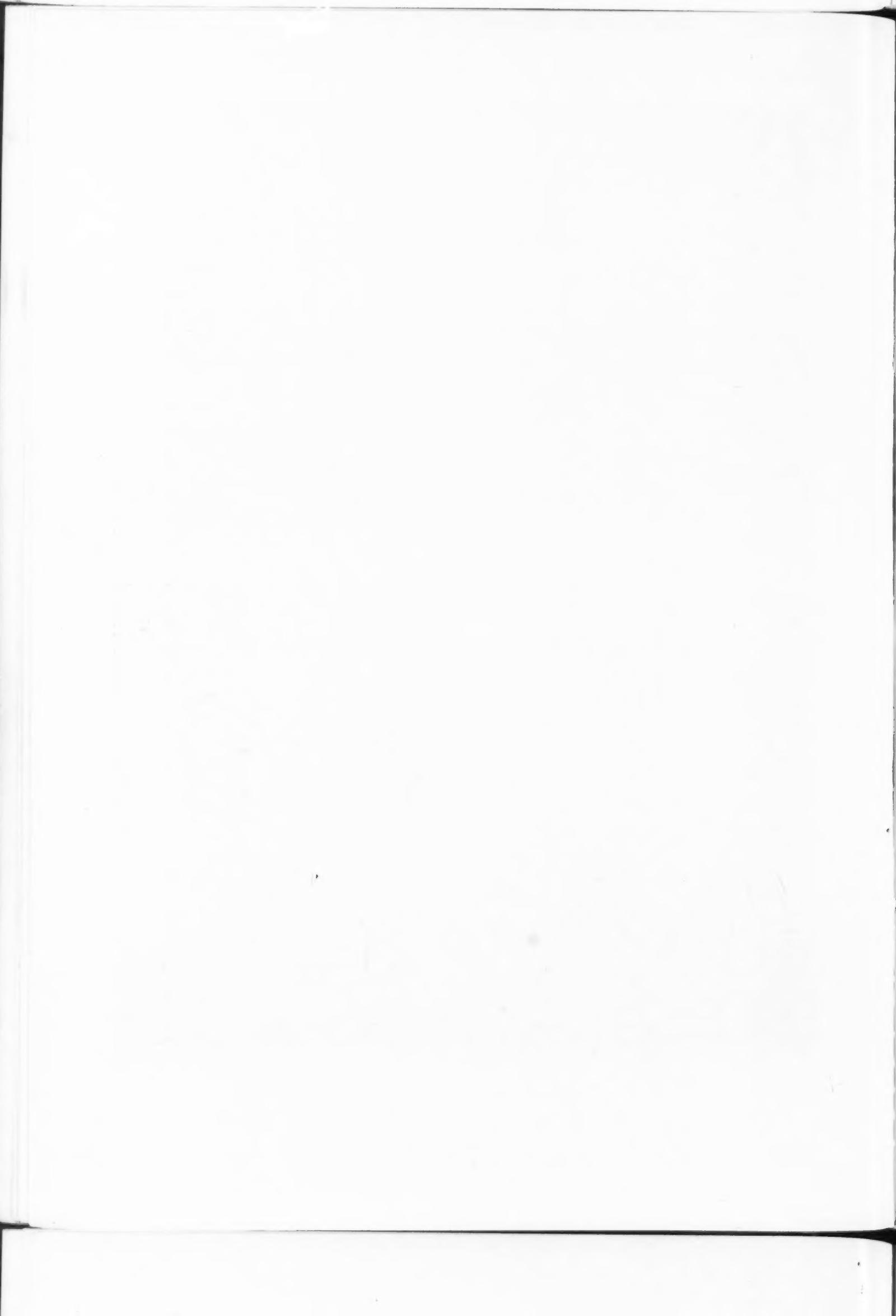




MAIN HALL, HOUSE OF ABRAM POOLE, ESQ., CHICAGO, ILL.

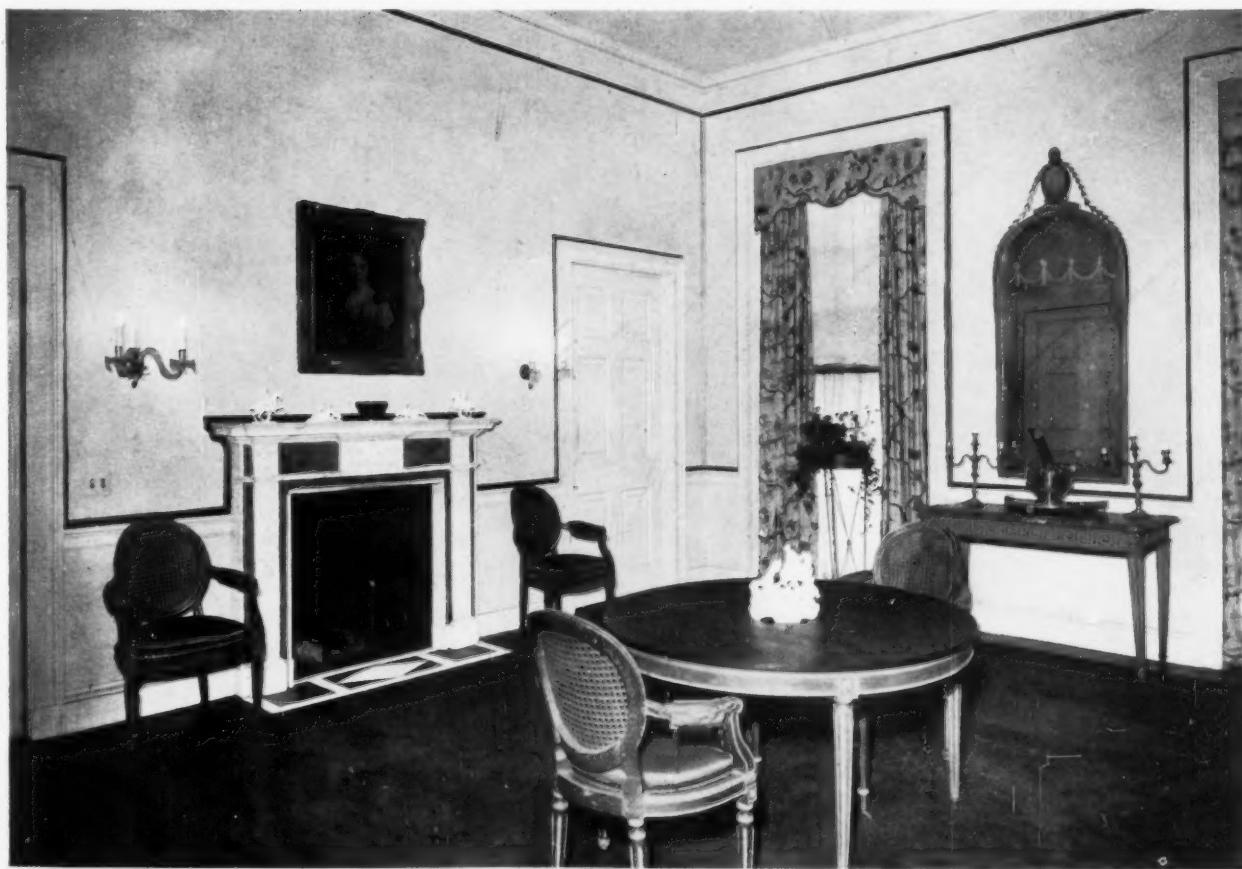
HENRY CORWITH Dangler, Architect

DESIGNED BY DAVID ADLER AND HENRY Dangler





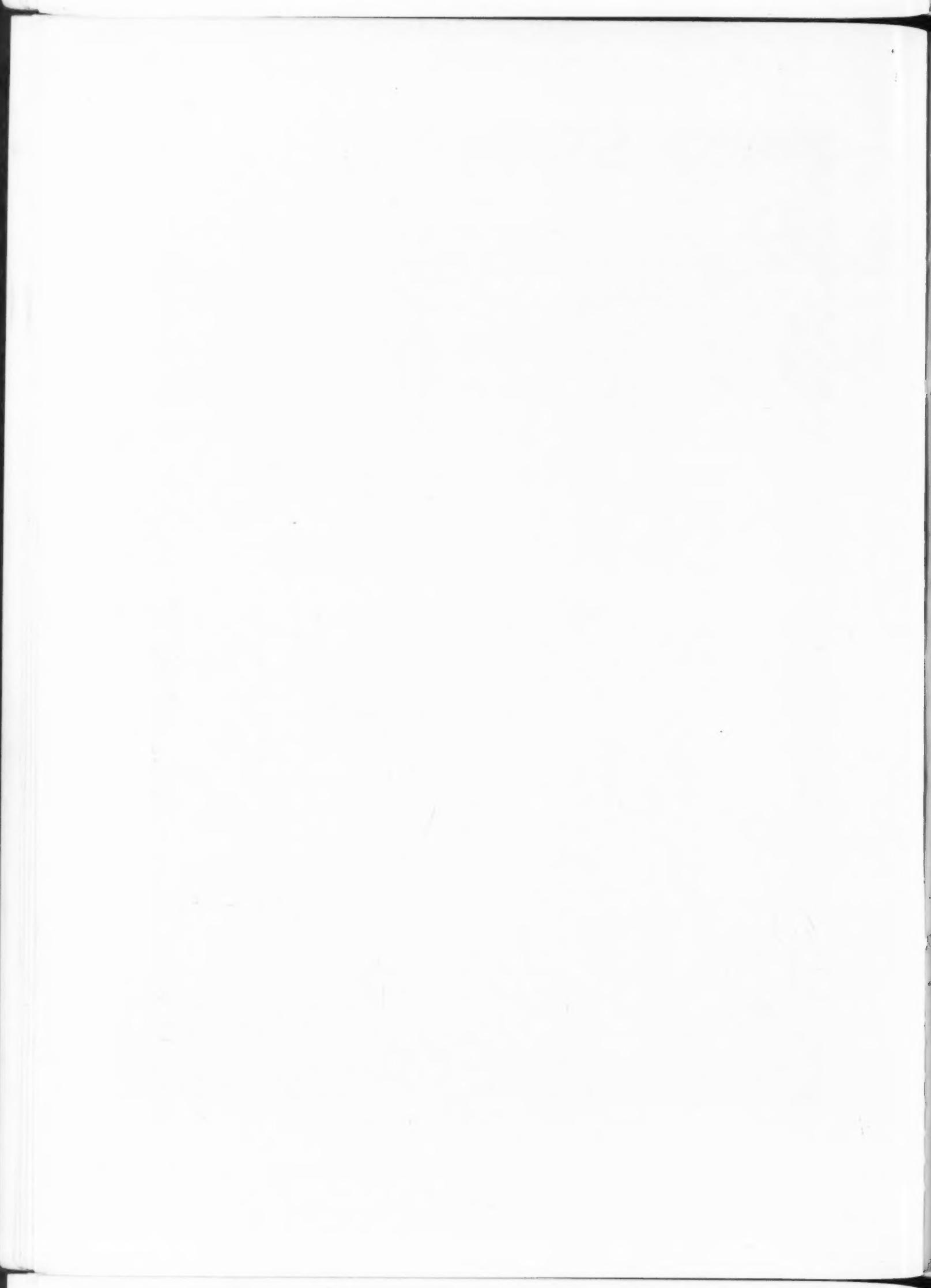
ENTRANCE LOBBY



DINING ROOM

HOUSE OF ABRAM POOLE, ESQ., CHICAGO, ILL.

HENRY CORWITH Dangler, Architect
DESIGNED BY DAVID ADLER AND HENRY Dangler



APRIL, 1922

THE ARCHITECTURAL FORUM

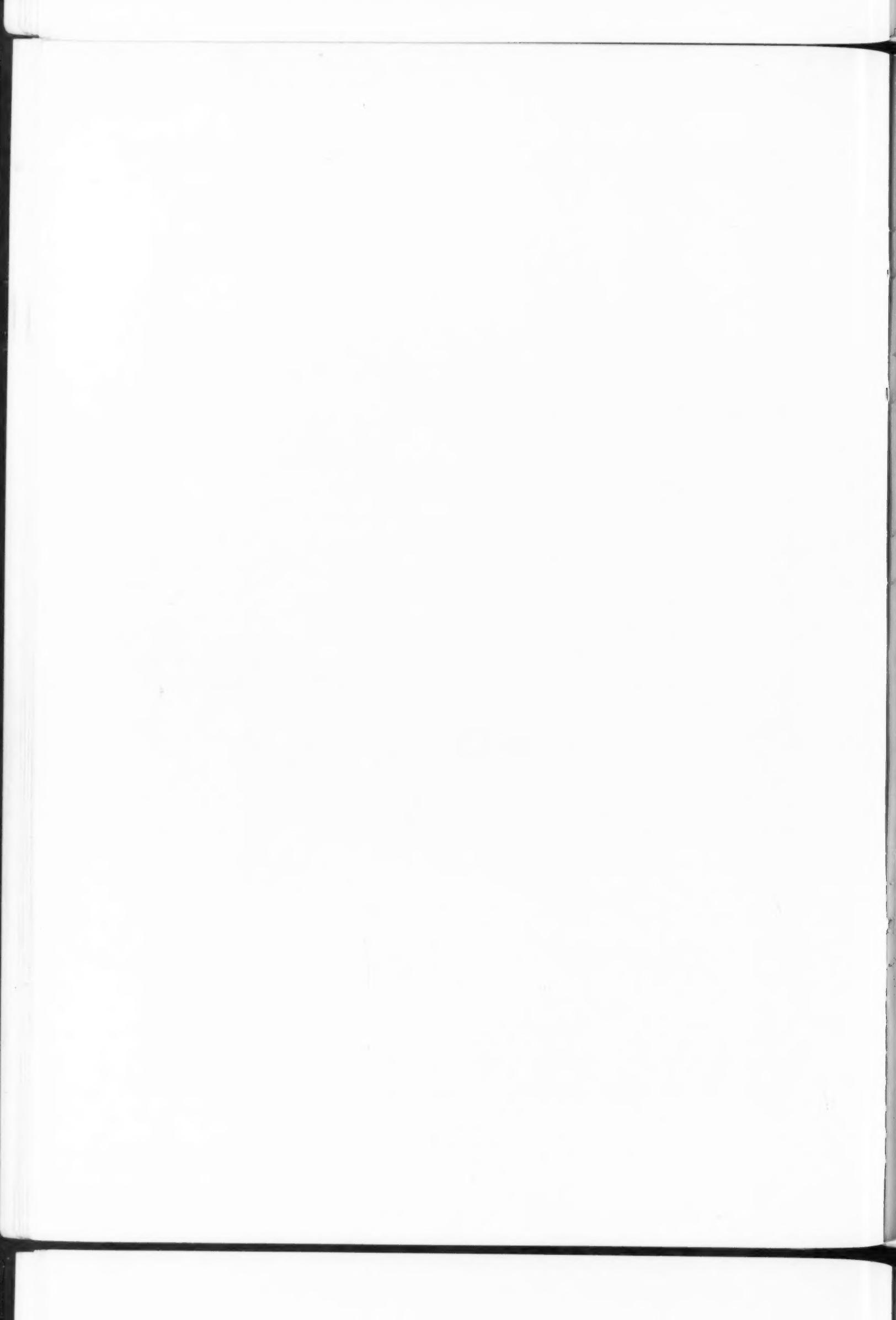
PLATE 52



LIVING ROOM, HOUSE OF MRS. ARTHUR RYERSON, CHICAGO, ILL.

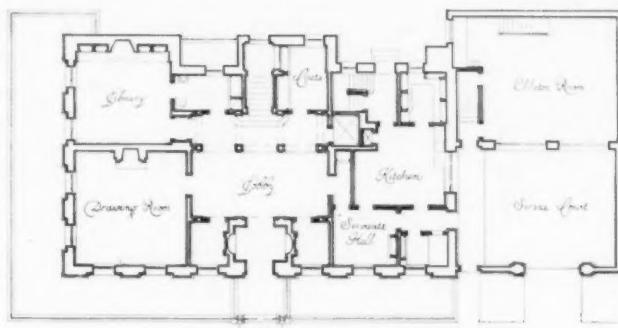
HENRY CORWITH Dangler, Architect

DESIGNED BY DAVID ADLER AND HENRY Dangler

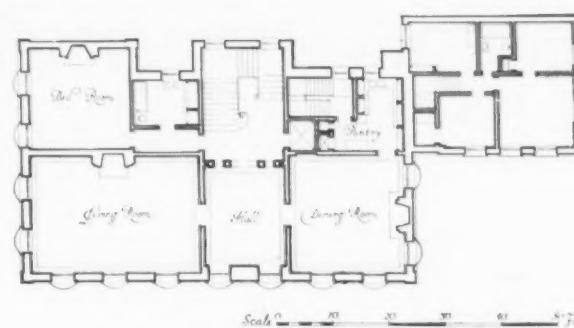




GENERAL EXTERIOR VIEW



FIRST FLOOR PLAN

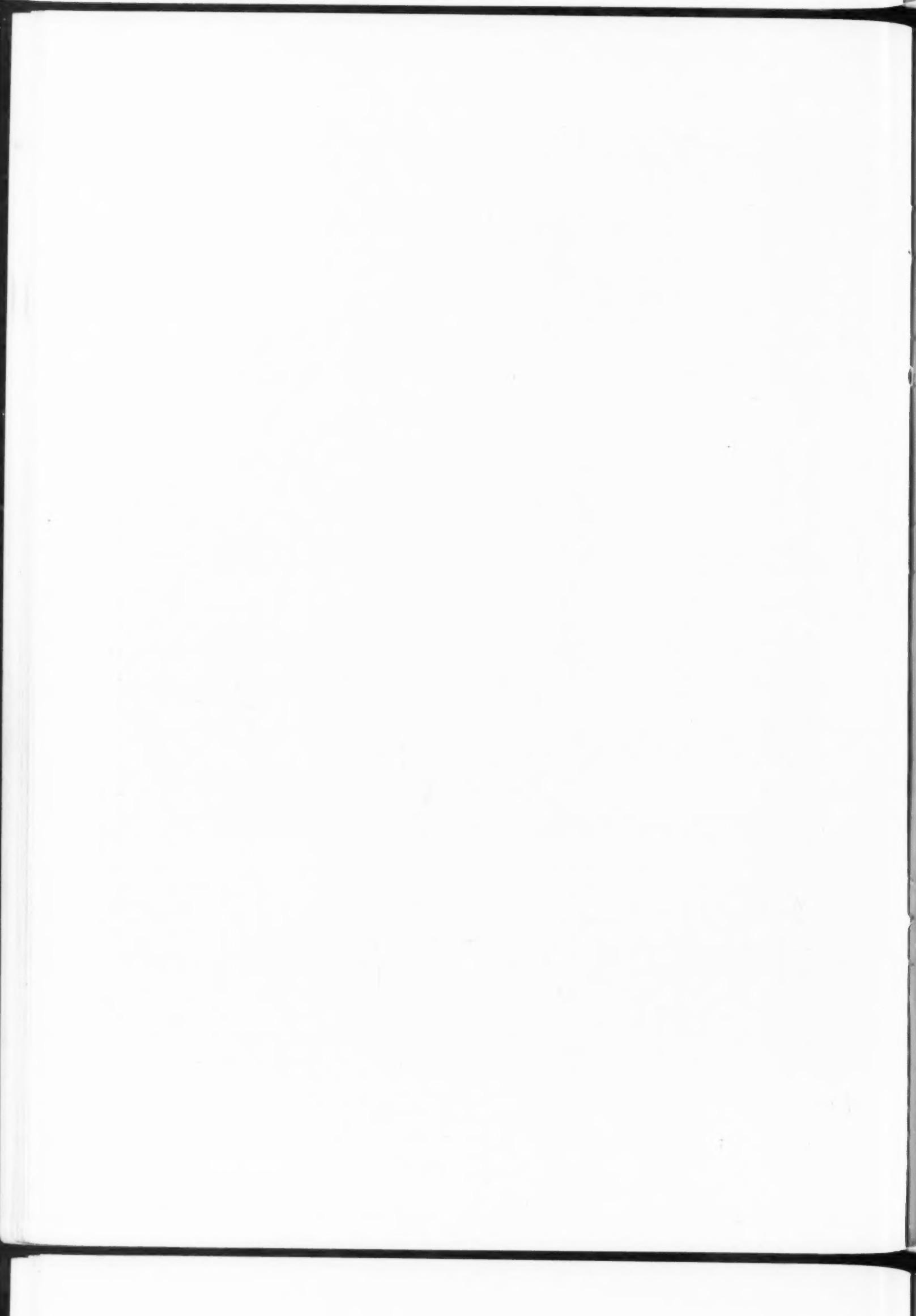


SECOND FLOOR PLAN

HOUSE OF CHARLES G. KING, ESQ., CHICAGO, ILL.

HENRY CORWITH Dangler, Architect

DESIGNED BY DAVID ADLER AND HENRY Dangler



APRIL, 1922

THE ARCHITECTURAL FORUM

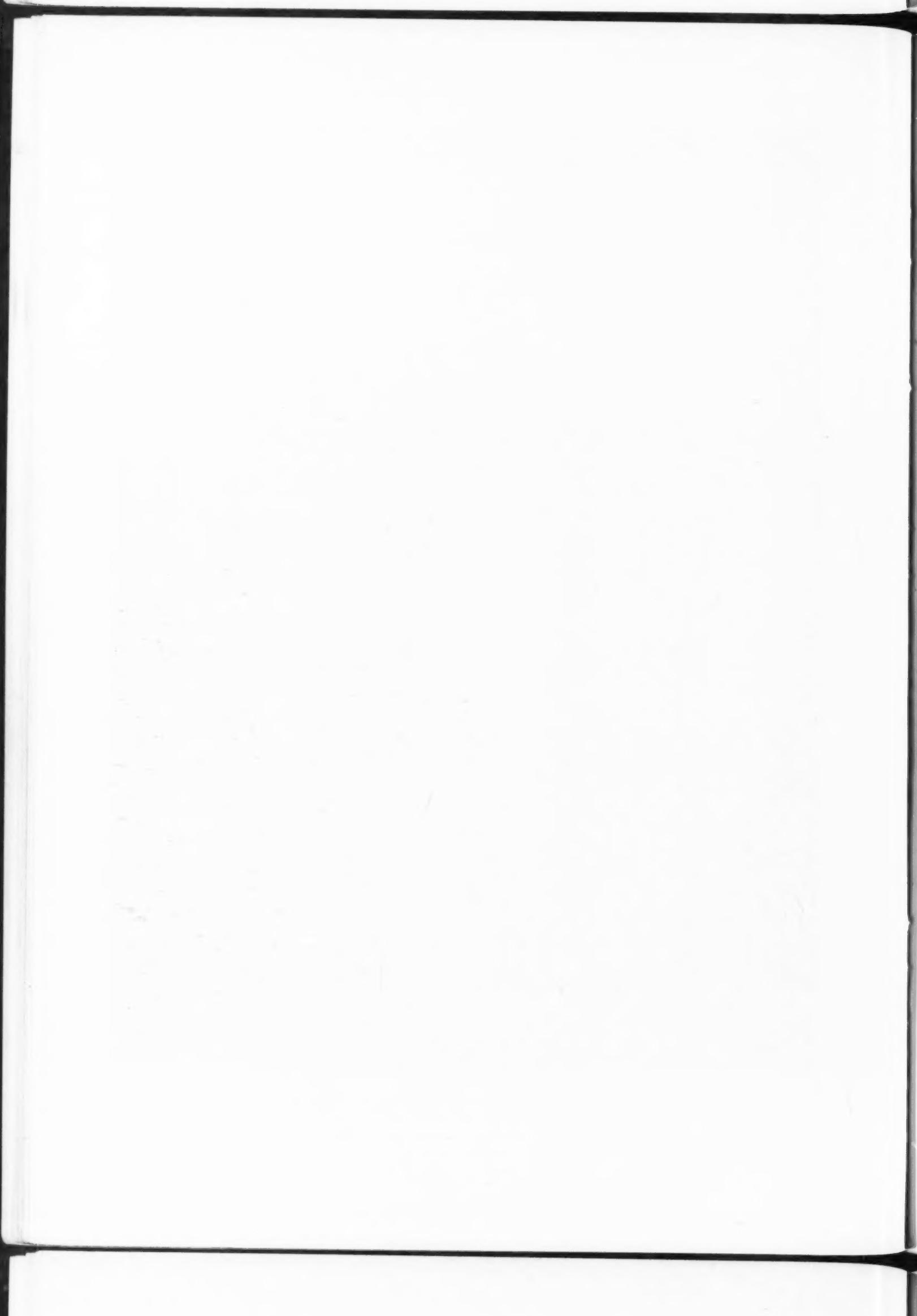
PLATE 54



MAIN HALL LOOKING FROM STAIRWAY

HOUSE OF CHARLES G. KING, ESQ., CHICAGO, ILL.

HENRY CORWITH Dangler, Architect
DESIGNED BY DAVID ADLER AND HENRY Dangler



APRIL, 1922

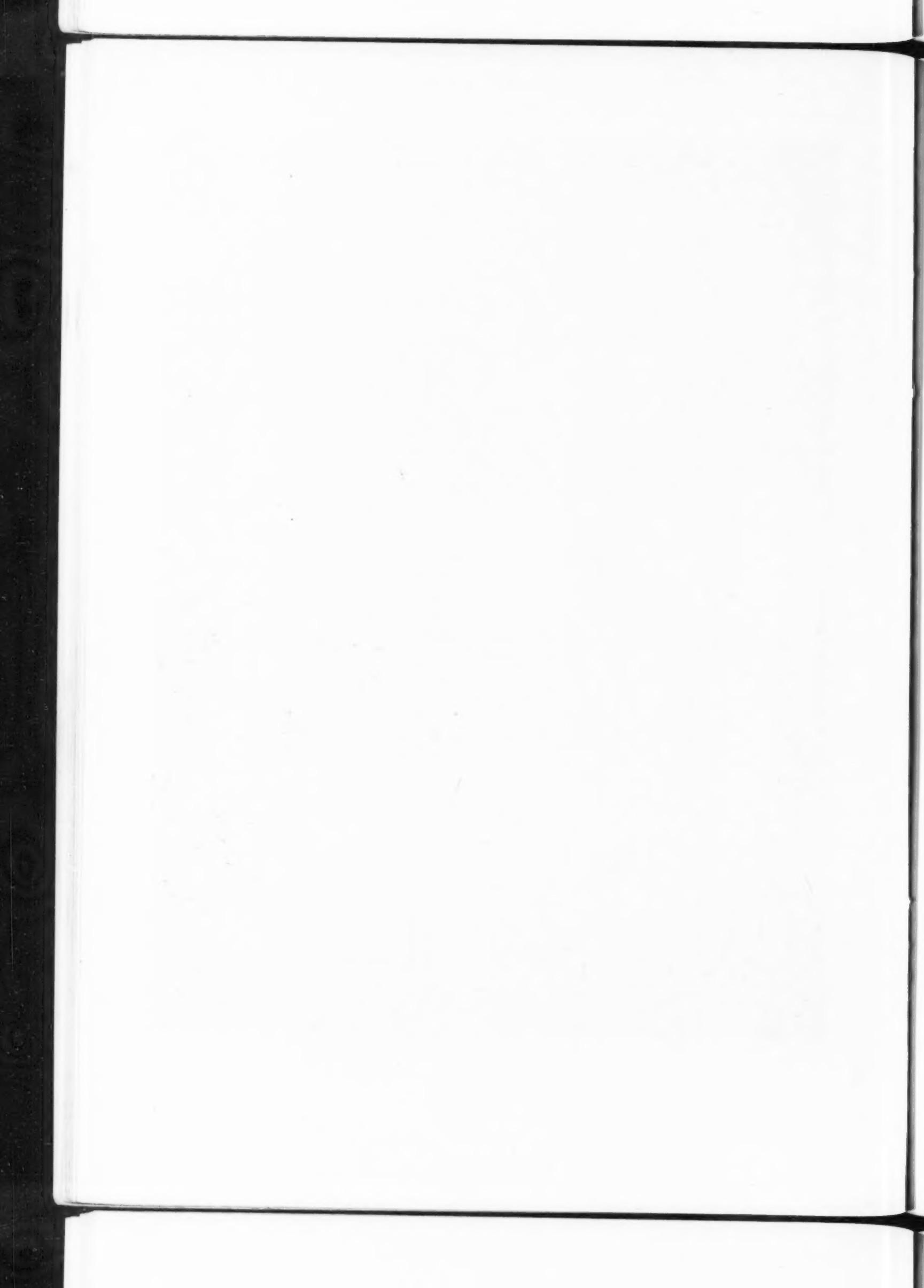
THE ARCHITECTURAL FORUM

PLATE 55



LIVING ROOM, HOUSE OF CHARLES G. KING, ESQ., CHICAGO, ILL.

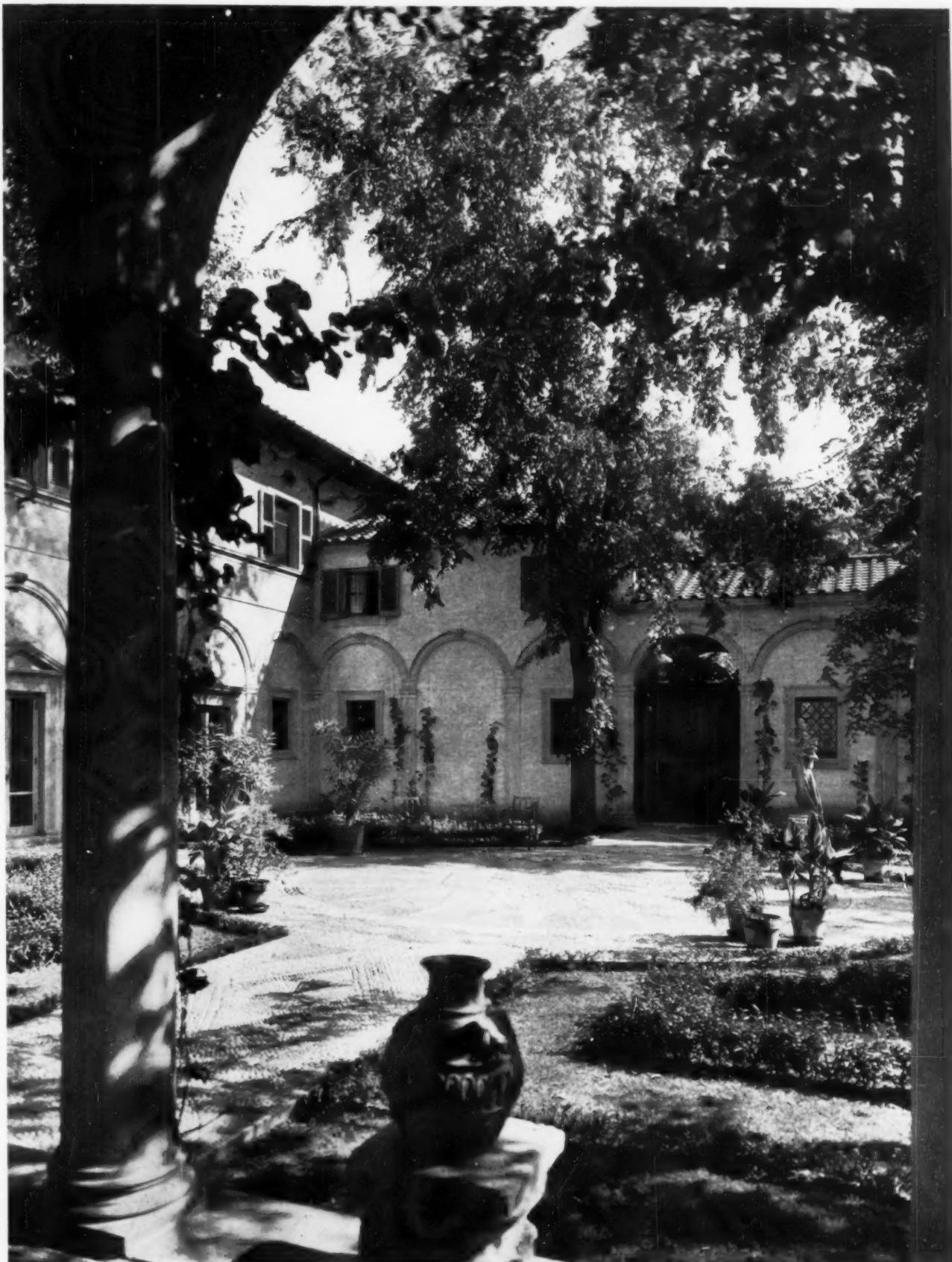
HENRY CORWITH Dangler, Architect
DESIGNED BY DAVID ADLER AND HENRY Dangler



APRIL, 1922

THE ARCHITECTURAL FORUM

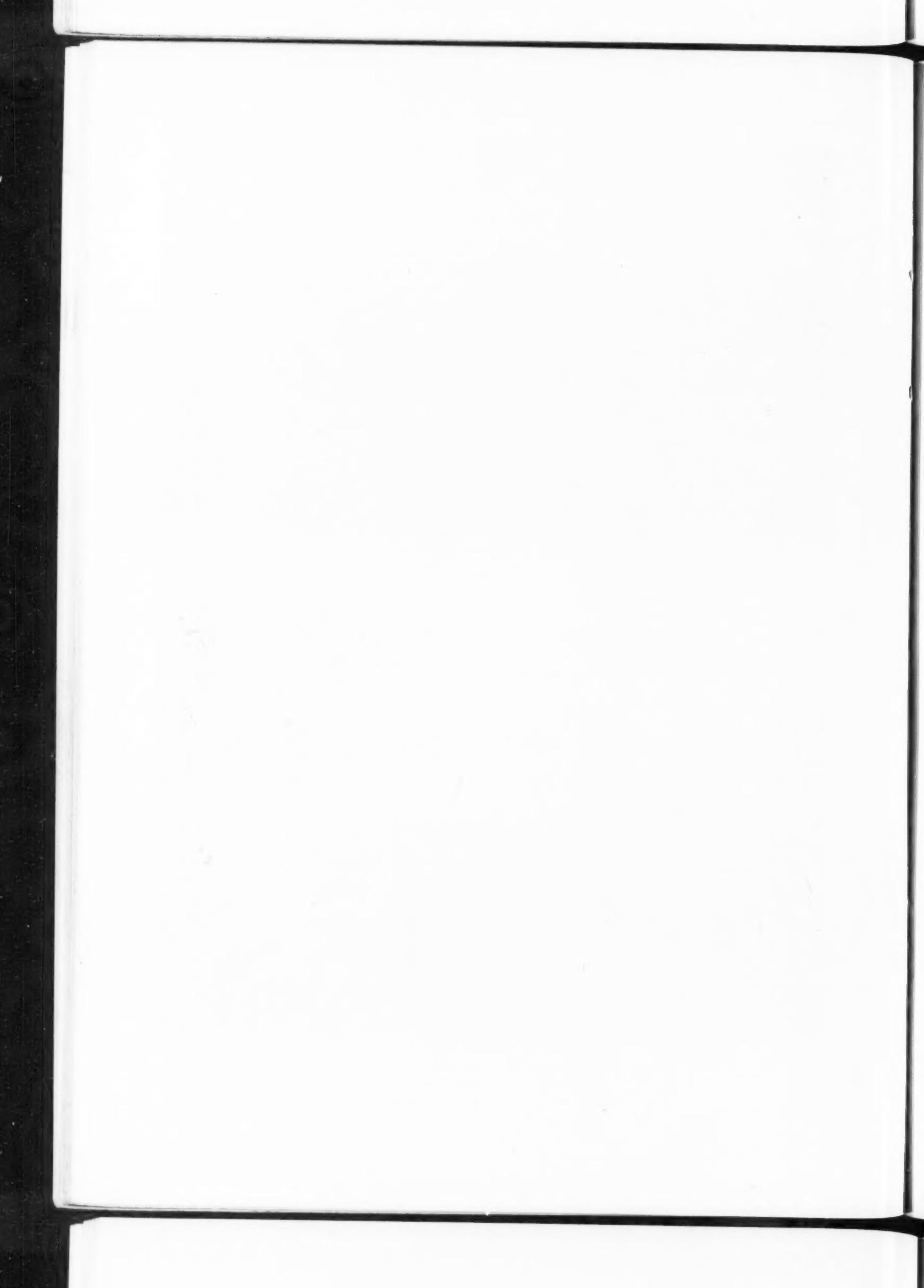
PLATE 56



VIEW ACROSS ENTRANCE COURT

HOUSE OF CHARLES BURRAL PIKE, ESQ., LAKE FOREST, ILL.

HENRY CORWITH Dangler, Architect
DESIGNED BY DAVID ADLER AND HENRY Dangler



APRIL, 1922

THE ARCHITECTURAL FORUM

PLATE 57



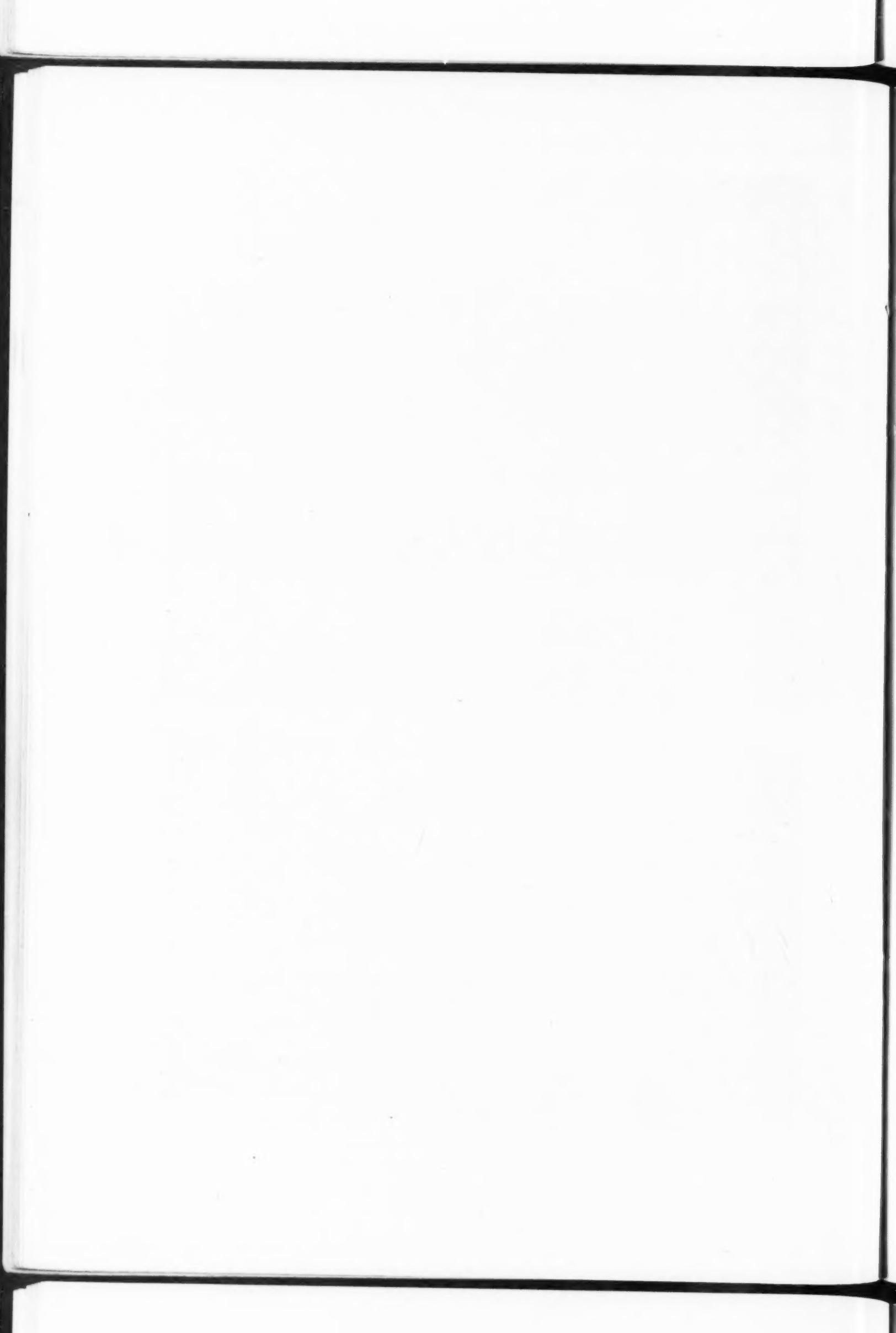
VIEW FROM ROAD



VIEW OF GARDEN LOOKING TOWARD LAKE

HOUSE OF CHARLES BURRAL PIKE, ESQ., LAKE FOREST, ILL.

HENRY CORWITH Dangler, Architect
DESIGNED BY DAVID ADLER AND HENRY Dangler



APRIL, 1922

THE ARCHITECTURAL FORUM

PLATE 58

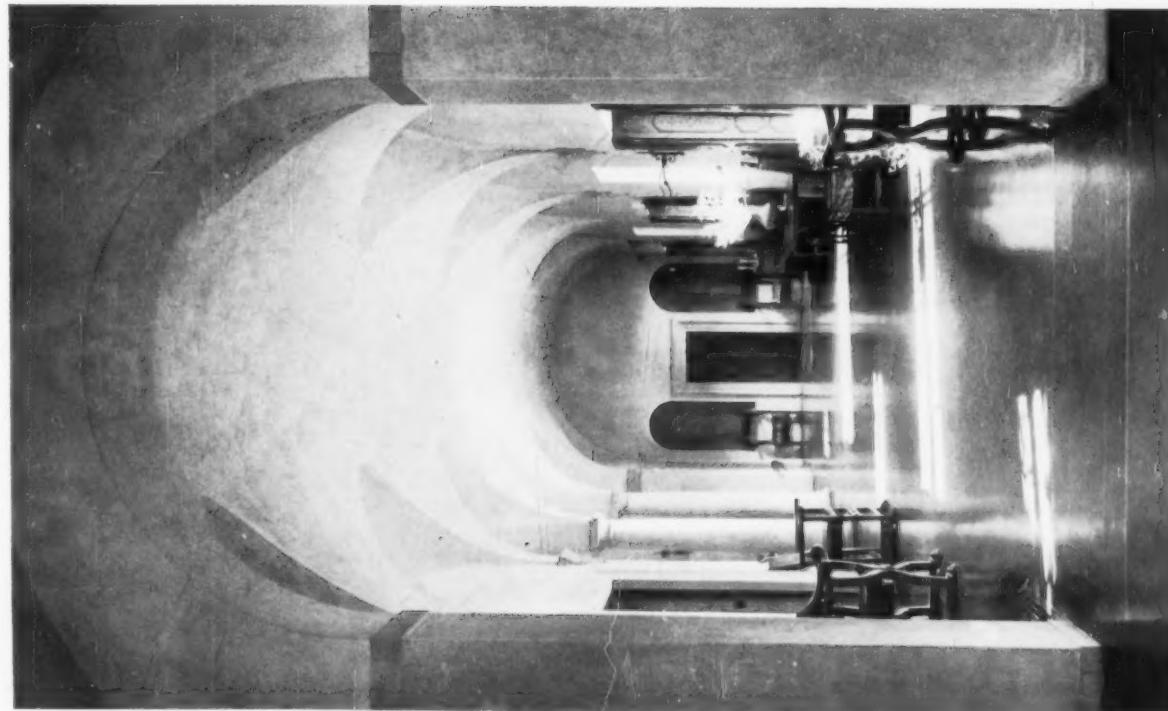


INTERIOR VIEWS OF GALLERY AND LIVING ROOM

HOUSE OF CHARLES BURRAL PIKE, ESQ., LAKE FOREST, ILL.

HENRY CORWITH Dangler, Architect

DESIGNED BY DAVID ADLER AND HENRY Dangler

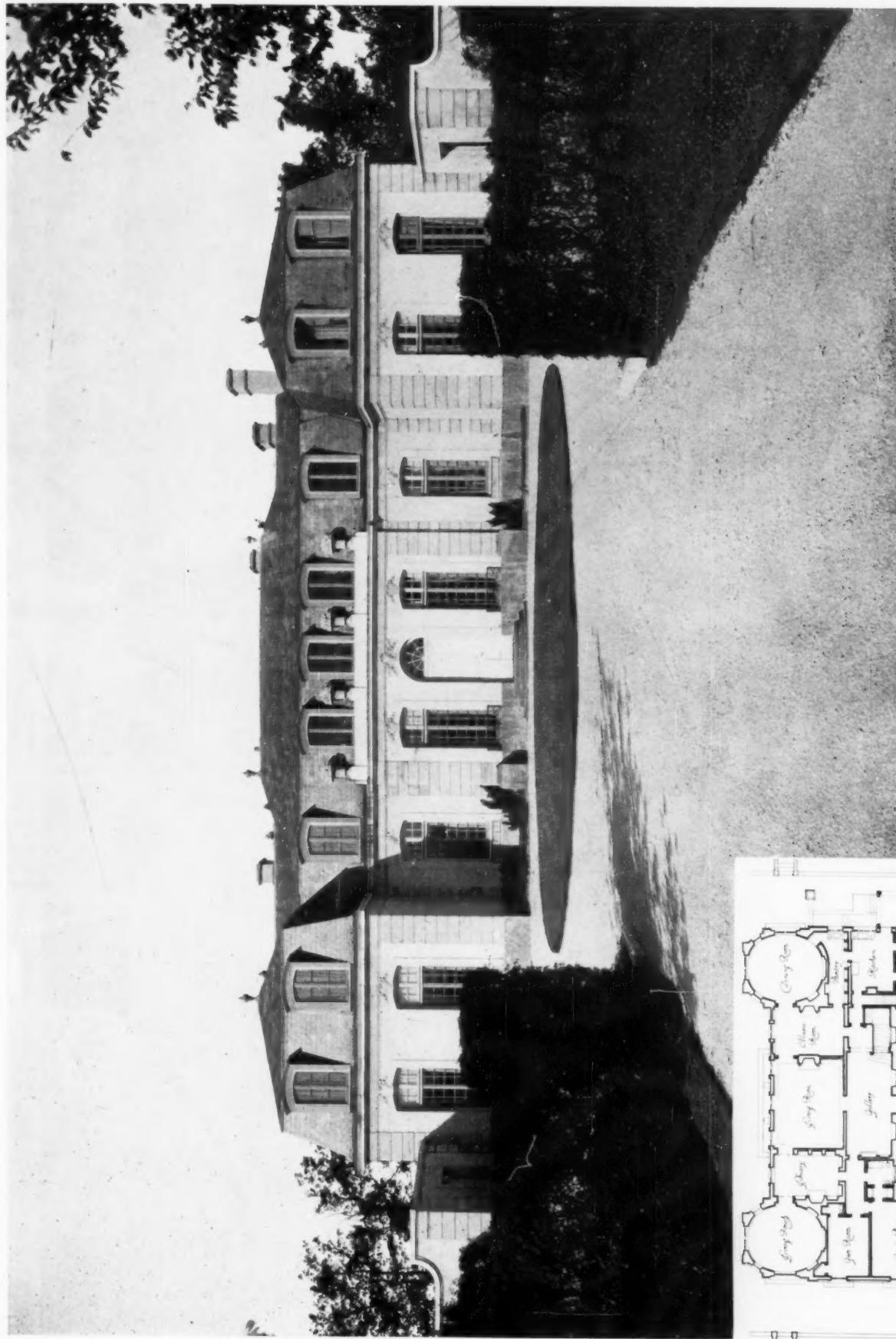




APRIL, 1922

THE ARCHITECTURAL FORUM

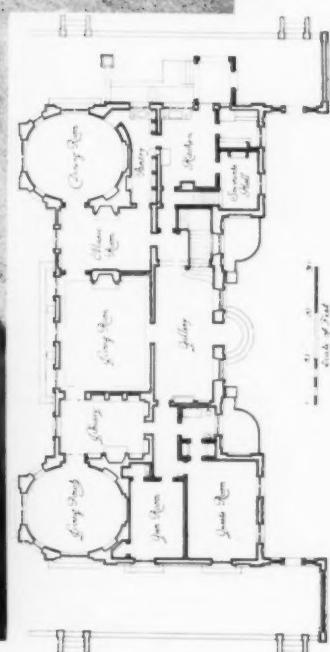
PLATE 59

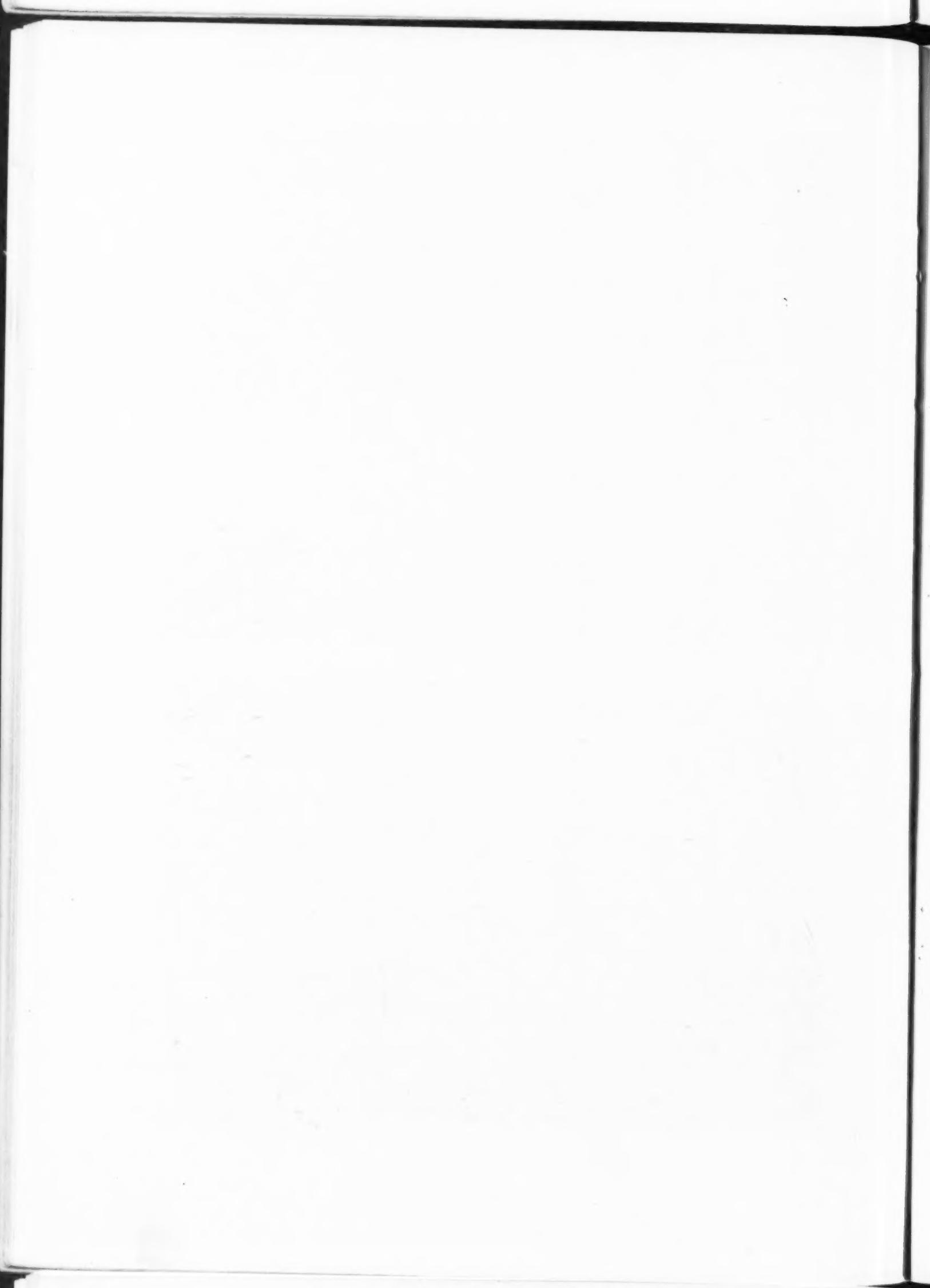


HOUSE OF RALPH H. POOLE, ESQ., LAKE BLUFF, ILL.

HENRY CORWITH Dangler, Architect

DESIGNED BY DAVID ADLER AND HENRY Dangler





APRIL, 1922

THE ARCHITECTURAL FORUM

PLATE 60



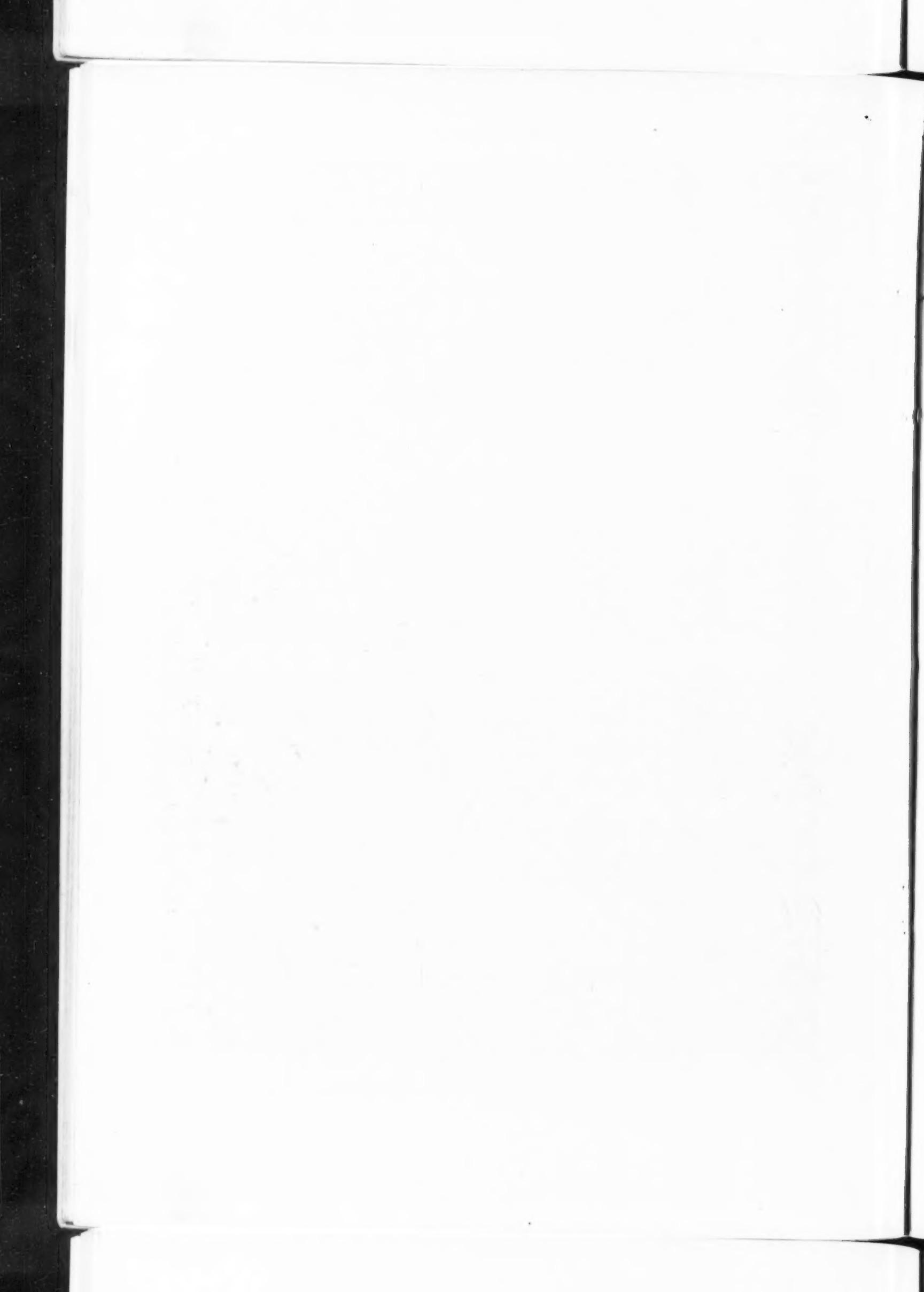
DETAIL VIEWS OF LIBRARY AND MUSIC ROOM

HOUSE OF RALPH H. POOLE, ESQ., LAKE BLUFF, ILL.

HENRY CORWITH Dangler, Architect

DESIGNED BY DAVID ADLER AND HENRY Dangler





APRIL, 1922

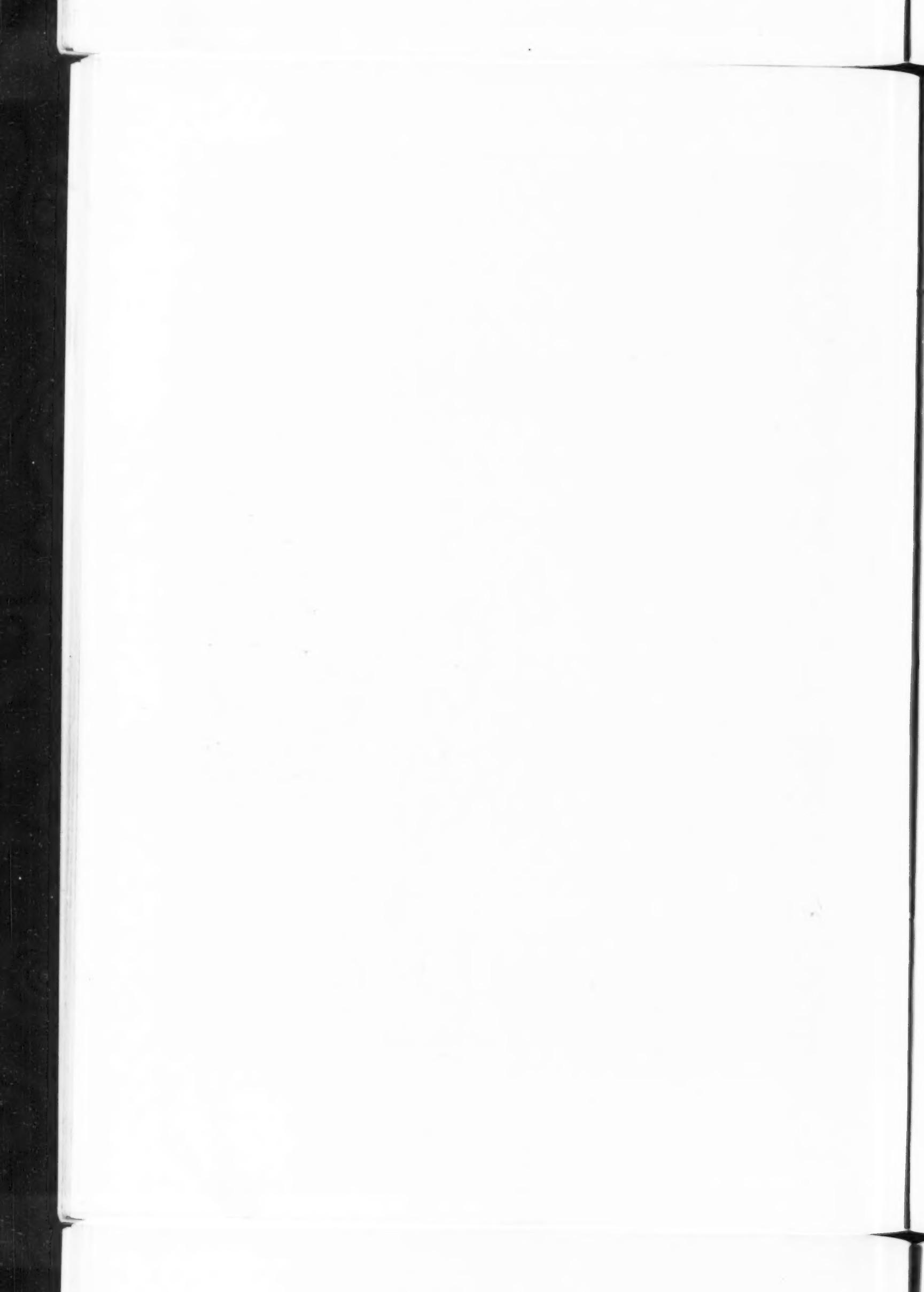
THE ARCHITECTURAL FORUM

PLATE 61



HALL, HOUSE OF JOSEPH M. CUDAHY, ESQ., LAKE FOREST, ILL.

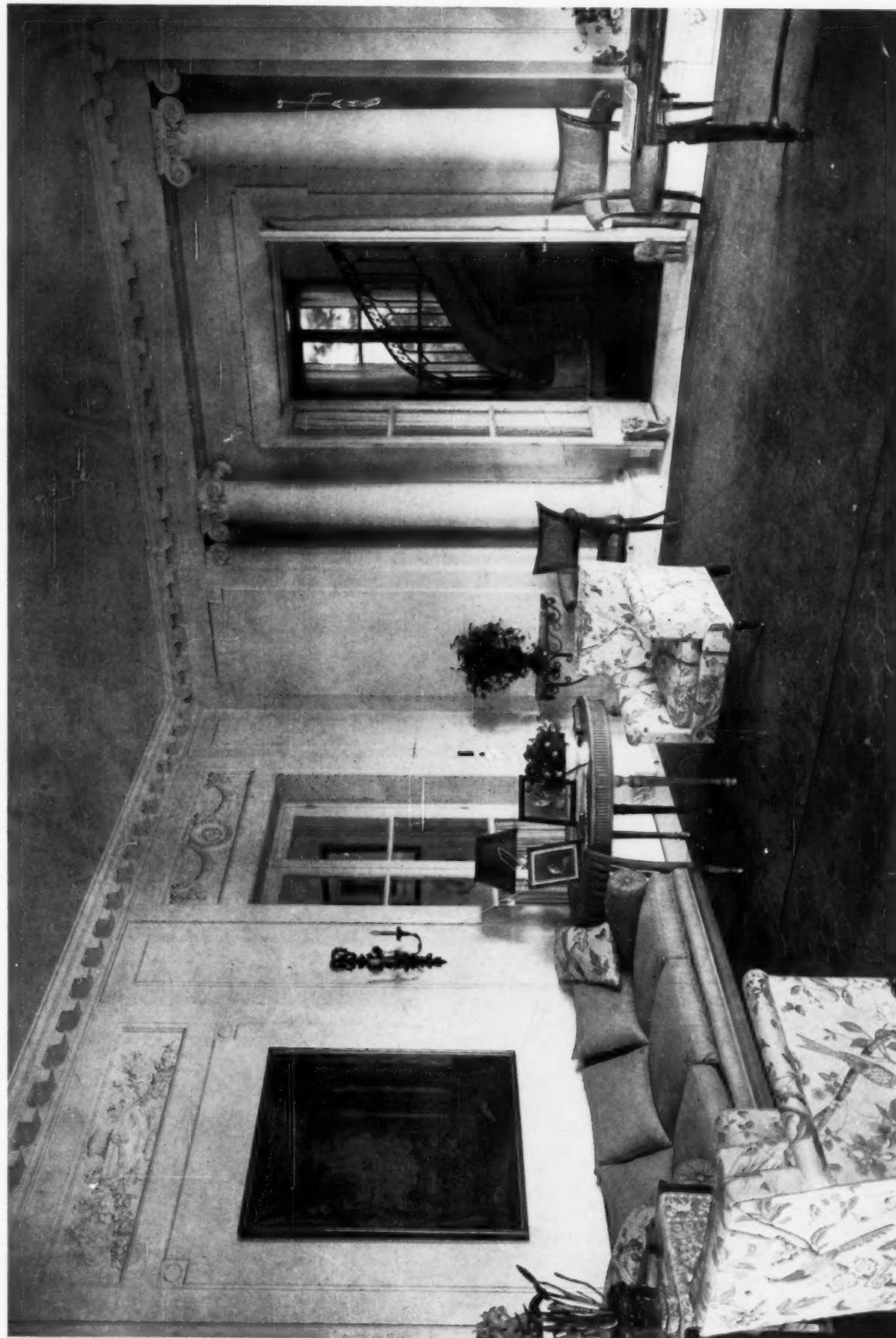
HENRY CORWITH Dangler, Architect
Designed by David Adler and Henry Dangler.



APRIL, 1922

THE ARCHITECTURAL FORUM

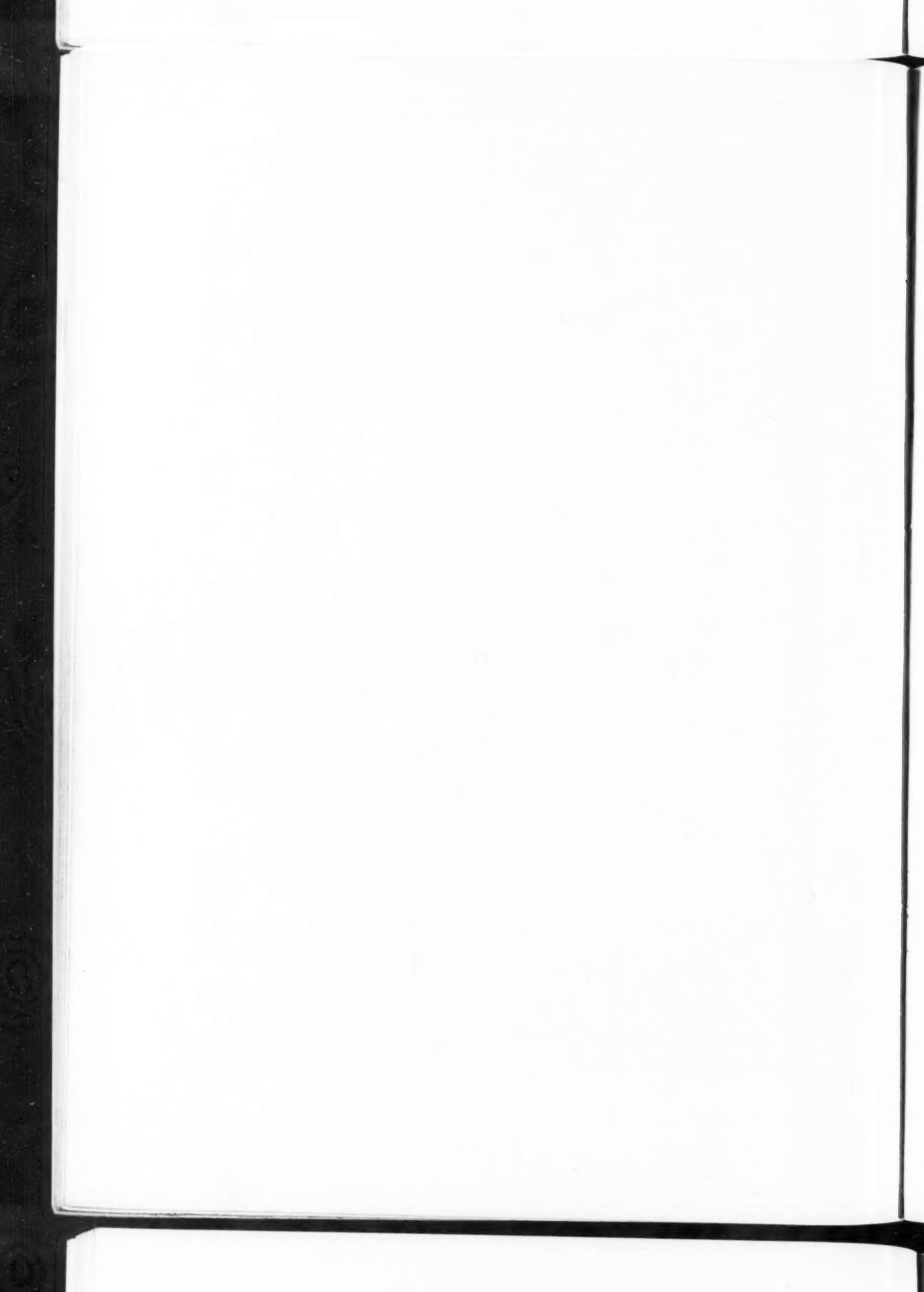
PLATE 62



GARDEN ROOM, HOUSE OF JOSEPH M. CUDAHY, ESQ., LAKE FOREST, ILL.

HENRY CORWTH Dangler, Architect

DESIGNED BY DAVID ADLER AND HENRY Dangler



BUSINESS & FINANCE

C. Stanley Taylor, *Associate Editor*

1922 Should Prove a Good Year for Architects

THE time has now arrived when it may be definitely predicted that the trend of each of the various economic forces which affects the volume of work in architectural offices is in the right direction to insure activity beginning early this year. Another significant fact is that within the past few weeks a considerable spirit of optimism has been developing among architects. In many offices certain long-delayed building projects are proceeding now, and the attitude of investors in this field promises a large volume of work for architects within the near future. Toward the end of last December the writer visited a number of cities throughout the East and Middle West for the purpose of discussing general conditions with architects. Early in March the same territory was covered again and he was frankly amazed at the change from discouragement to optimism. Many of the offices which were slack three months ago are quite busy now and no dissenting report was found regarding the encouraging outlook.

In regard to the improvement in general business conditions, it seems to be the consensus of opinion on the part of authorities in the world of business and finance that we have turned the corner and that by the fall of 1922 this country will have entered a season of mild prosperity, to be followed by several good business years. As this fact becomes more and more evident it is apparent that the confidence of building investors is being restored and that the volume of building construction will be increased through preparations for greater business activity.

A study of the chart shown on the first page of the Service Section of this issue of THE FORUM indicates that building costs have become sufficiently stabilized to encourage investors. It is also important to note that the first two months of 1922 show a volume of prospective building in the form of plans filed which is more than half again greater than in the similar period for 1921. Starting, therefore, with this sound foundation of improved general business conditions, we may analyze in some detail the factors which directly affect the volume of building and particularly the volume of work which

EVERY ARCHITECT SHOULD READ

this article which presents an accurate analysis of conditions affecting the building industry as we enter the period of spring activity. In addition to a review of general business conditions in the field, there is presented an analysis of a recent decree of the Department of Justice which removes any limitation of production on the part of building trades labor and should go far to eliminating unfair practices which have heretofore restricted labor output and forced unequal conditions upon the building investor and employer. The facts which are given in this article constitute information which will be of direct benefit to clients who at this time are considering investment in new buildings.

will pass through the architectural offices of this country during the period immediately ahead.

ACTIVE TYPES OF BUILDING PROJECTS. THE FORUM Survey of Prospective Building Activity for 1922 (described in November, 1921 issue) has indicated an unusual amount of planning for schools, hospitals, churches and other institutional

buildings; public and semi-public structures; residential buildings, particularly of the apartment house and apartment hotel type; hotels in smaller cities and towns, and automotive buildings, including public garages and sales buildings. While industrial structures will not contribute as large a quota of new construction as in the past, it may be noted that of the volume of industrial construction to be carried out a larger percentage than ever before will pass through architects' offices. This is in view of the demand for a better class of buildings to be constructed by conservative industrial organizations. There will be little industrial expansion of the mushroom growth type, which has characterized the past four or five years, because general prices have been forced down to a point where the industrial field offers no unusual speculative inducements.

The year 1922 will probably be marked by a great reduction in the number of building alterations in larger cities. The reduced cost of new construction tends to discourage extensive alterations and to encourage improvements of a permanent nature in the business districts. In our larger cities architects may expect, therefore, a certain volume of business in the form of department store extensions and improvements, new office buildings of medium size, warehouses and water front improvements and general building activity in every section of any city which has recently been opened up by new transportation facilities.

BUILDING FINANCE FOR 1922. One of the important controlling elements, which also shows encouraging signs at the present time, is that of building finance. A canvass of conditions among the more important loaning institutions indicates that larger sums are available for building loan and

mortgage financing than at any time since early in the war period. This condition fundamentally reflects the return of public confidence in the building field as an outlet for investment funds. Those financial organizations which make a specialty of the sale of mortgage investment bonds report an ample supply of funds. In fact, in the larger cities many such institutions are actively advertising mortgage money and are seeking good mortgage investments, having more money than they are able to place.

The entrance of the trend line of building cost into the zone of stabilization is reflected by increased confidence on the part of loaning institutions, and loans are being made on a more liberal basis of appraisal than during the past year. Naturally, every point of decrease in the cost of building construction is to the advantage of the investor and the speculative builder in the reduction of necessary equity for new construction projects. During the period of high building costs appraisals for mortgage purposes were maintained on a very conservative basis, making full allowance for the depreciation in reproduction value of buildings. This has meant that in the past two or three years it was necessary for the building investor to provide an unusually large percentage of his cost as equity.

With the decline in construction costs, however, there has been such a marked decrease in the ratio of necessary equity to total land and building cost that the first healthy signs of speculative building activity have developed, particularly in the various classes of buildings which constitute dwellings. Of these the projects which have been of chief interest to architects are groups of dwellings, apartment houses and apartment hotels. The fact that a heavy buying movement will be uncovered with an additional decrease and an easing up of the mortgage market has already been indicated by what happened in New York when the two factors of decreased cost of building and tax-exemption on new buildings emerged into activity in the late summer and fall of 1921.

A study of building activity in New York gives an unusual opportunity to dissect the development of a building boom and to determine at what point the architect benefits as the volume of construction increases. In New York after the passage of the tax-exemption measure there were at first signs of activity only in the inexpensive residential class where tax-exemption encouraged a number of rent-sick individuals to own homes regardless of the prospective decrease in construction costs. During this period a few speculative builders, encouraged by the absorption of a large proportion of existent housing by the buying public at exorbitant prices, proceeded to build on the assumption that a market would be found regardless of cost. Unfortunately, the buying public did not respond very strongly to new dwellings made available on that basis, largely due to the fact that having already seen a steep decline in general prices, a veritable "buyers'

strike" developed in the housing field. Such builders were left high and dry as the tide of cost receded rapidly during the spring and summer of 1921.

On the other hand, toward the base of this sharp decline in costs (see chart on first page of Service Section) a wave of speculative building developed. At this time the type of speculative builder who entered the field was bent on cutting corners in every possible manner. Among other items which were often cut out on a basis of false economy were architects' fees. This phase of the development of building activity introduced into New York a large volume of inferior and poorly designed construction, particularly in the apartment house and moderate cost residential field. From the speculative builder's viewpoint, because of the unusual pressure for housing, this activity was fairly successful. It was still possible to get high rents in these new buildings and to sell them to investors at high prices based on rent rolls which promised excellent investment returns. The fact is, however, that this class of construction will suffer heavily at a later period when the housing shortage is less acute, because the public will then be given an opportunity to select living quarters rather than be forced to take the first vacant apartment or house which may be available. This will bring into competition the better designed and better constructed buildings which are now proceeding under construction or are in various stages of planning. Undoubtedly, the flimsy and poorly designed buildings of the earlier period of 1921 will suffer in valuation and there will probably be a considerable money loss for investors who attempted to capitalize the housing shortage and to provide living quarters of minimum value at maximum cost to the tenant.

In the fall and winter of 1921, however, a different class of speculative buildings has been entering the residential field. This class includes a large number of carefully designed apartment buildings in which some thought has been given to architectural planning and to a better type of building construction. Here the valuable effect of architectural planning is quite noticeable and the ultimate comparison of the buildings built from good architectural plans with those constructed on the basis of false economy earlier in the year will be one of the best arguments yet presented to the investing public as to the value of architectural services.

The development of these various stages of residential building in New York may be applied generally throughout the country. As costs have come down a wave of cheap speculative building has been and is sweeping the country, particularly in connection with housing and community utility buildings. We may note, however, that already in some of the western cities a reaction has commenced in favor of the architect and that the secondary wave of building activity, reflected in plans filed in January and February, calls for better built and better

designed structures than in the primary wave which developed in the late summer of 1921.

The result of this reaction has undoubtedly been felt by loaning institutions. We believe that thoughtful consideration on the part of such organizations is now being given to the importance of efficient planning and good design as affecting buildings which constitute collateral for loans. In other words, it looks very much to us as though architecture during the next few years will be a much more important factor in building loan appraisals than ever in the past. *The architect himself can do much to bring about this desirable condition, first, by making more careful study of building finance as affecting the districts in which he works, and, second, by developing a closer contact with loaning institutions in order better to determine their requirements and thus render a more complete service to clients.*

The architect has much information which would be of benefit to any loaning institution, and it is certain that a more comprehensive knowledge of the attitude and requirements of loaning institutions would be of great benefit to the architect and consequently to his client. This fact is proved when one learns that not one out of 20 building and permanent mortgage loans is made by leading loaning institutions of this country without their suggesting and insisting upon changes in the plans submitted!

THE BUILDING INVESTOR'S VIEWPOINT. The prospective building investor has naturally been considerably bewildered by the unusual fluctuations in building costs and demand. When the period of general deflation began about two years ago, the public watched with interest as prices dropped rapidly in various classes of necessities and luxuries. It was but a natural assumption that there would be a considerable decline in the cost of building. This decline took place until late in the fall of 1921 when building cost developed some aspects of stabilization. It has been difficult, however, for the building investor to realize that a period of stabilization is setting in and that by building within the near future he will not be risking a further great depreciation in replacement values. Gradually, however, this realization is developing and the building investor is gaining confidence which will probably be expressed in an increasing volume of work in architectural offices.

The ironing out of labor difficulties, as explained in later paragraphs in this article, together with the encouraging attitude of loaning interests, is having much to do with the return of confidence on the part of the building investor. It must be remembered, however, that in making his investment he will look to the architect for a comprehensive type of service. He will insist as never before that his building be thoroughly efficient in plan and that it shall be built on a minimum cost basis but without sacrificing too greatly the quality of materials and equipment.

As never before, the building investor will ap-

preciate the co-operation of the architect in the introduction of expert service for special problems connected with the building. Thus in the design of office buildings and other investment types, the viewpoint of the building manager who is to be responsible for maintenance and renting should be sought eagerly by the architect before final plans are completed. Unless through some unusual combination of circumstances he may have had extensive experience in building management, there is no architect today who can design a commercial building that could not be improved by valuable suggestions from an efficient building manager. *Millions of dollars have been wasted in buildings throughout this country during past years because those who are responsible for design and equipment have not been brought in contact during the period of planning with those who are responsible for maintenance and income.* It is a significant fact that there is scarcely an office building in the United States in which the manager would not make drastic changes in plan and equipment if he were able to do so.

What does this mean from the investor's viewpoint? It means that whenever an architect may have cause to introduce a specialist in connection with some phase of planning and equipment, he will gain and merit the appreciation of his client. In fact this is the kind of service that he will rapidly learn to expect from his architect—a service reflecting a deeper appreciation of the owner's business viewpoint and the financial success of his project.

Again, in the construction of his building, he will appreciate buying skill which may be shown by the architect. In other sections of THE FORUM we have already called attention to the fact that in this period of keen competition between general and sub-contractors and in the material market, there is open to the architect an opportunity for skillful buying such as he has never known before. It is quite surprising how much can be cut from the cost of a building today by carefully combing the field for sub-contract bids and by willingness to change specifications to meet opportunities for saving which may be suggested by contractors or salesmen of building materials, devices and equipment. The architect who studies the building field carefully today, who welcomes the salesman as a friend and ally rather than receiving him grudgingly as a time-consuming pest, who studies the ways and demands of the speculative building field, and who becomes better acquainted with bankers and loaning institutions, is the architect who will reap his reward in the years of activity to come because he will look at every project which comes into his office through the eyes of the building investor who may be his client. In this way only can he render true service and develop a sound reputation among building investors in his locality.

An interesting substantiation of this viewpoint has recently been given by Leonard P. Ayres, Vice-president of the Cleveland Trust Company, in an

address before the annual meeting of the Associated General Contractors. (In the Service Section of this issue of THE FORUM will be found a complete analysis by Colonel Ayres of the extraordinary future of the construction industry.) In the course of his address he makes these interesting remarks:

"For business men in this period of competition are going to demand value; they are going to shop when they make their purchases in construction, just as they are in every other commodity. *That man, who can hand over to them a larger inherent worth for the investment, is the man who is going to reap his reward in this competitive period that is upon us*—a period, I think, in which that man is going to succeed and those firms are going to survive that practice this sort of foresight that we have been talking about, that are able to exercise a wise thrift, that can increase the efficiency of the management of their concerns and, most of all, that know or get to know the fundamental facts about their business, that have the ability and the will to substitute facts for guesses and knowledge for opinions and evidence for speculation.

"For that man or firm, in the construction industry, a very hopeful future exists. And, gentlemen, that is what I think about the construction industry in 1922 from a banker's viewpoint!"

SPECULATIVE BUILDING AND ARCHITECTURAL SERVICE. We have already referred to the increasing use of architectural service by speculative builders in the second stage of the building boom in New York and vicinity. An examination of conditions in the speculative building field in other large cities throughout the East and Middle West shows an increasing amount of speculative work under design through architectural offices. One of the principal reasons for this condition is that speculative building ventures are now being undertaken by a more conservative and more businesslike class of investors who realize that their buildings must be designed to meet the keen competition which will follow in later years.

In order to make his service of value to the speculative builder, the architect must be in a position to make an exact study of rental and maintenance efficiency. He must also consider seriously the introduction of the element of architectural design through the use of simple forms and through the relation of structural masses and proportions rather than by expensive embellishments. In the field of speculative apartment house construction, it may be noted that within the past few months a number of architects have developed unusually good reputations and large volumes of business through their skill in designing attractive buildings with layouts promising maximum rental returns and minimum overhead costs. If an architect proposes to enter this field he must make a study of building financing, the local rental market and the market for materials and equipment, so that he can offer to the speculative builder efficient plans in which architectural design is not over-emphasized by an increase in cost of construction and which provide rentable areas showing the highest possible market value. He must also keep closely in touch with developments in the field of utility equipment so that he can introduce the maximum number of features which will attract and hold tenants. The same conditions

hold true for other types of buildings which may be considered in the class of speculative investments.

CUTTING THE CLAWS OF BUILDING LABOR. One of the most important events which has taken place recently in the construction industry is the agreement made last month between the United States Department of Justice and the International Union of Bricklayers, Masons and Plasterers. As formulated by the Department of Justice, this agreement, which is virtually a decree, contains these provisions:

"1. There is to be no limit to the productive capacity of the individual workman within the working day or any other time.

"2. There is to be no limit upon the right of the employers to purchase their materials wherever and whenever and from whomsoever they may choose, whether these materials be union-made or otherwise.

"3. There is to be no favoritism shown by organized labor toward employer or trade associations, and no discriminations are to be indulged in against the independent employer who may not be a member of such an organization.

"4. The labor organization is not to be used, or permit itself to be used, by material men or contractors or sub-contractors as an instrument for the collection of debts or enforcement of alleged claims."

It is of particular importance to note that this agreement establishes new working rules for approximately 119,000 union workers, and that any member who violates a provision of the decree "will be guilty of contempt and subject to both fine and imprisonment."

While this decree does not insure that all building jobs will proceed on an honest and fair basis, it is evident that it opens up an opportunity for fair minded employers and for employees who wish to give real service, to proceed in harmony without fear of the vicious, undermining influences of crooked labor leaders and lazy workmen. This action is the gratifying outcome of many efforts such as that involved in the Landis decision, and the unearthing of conditions in the New York building field by Samuel Untermyer.

THE TREND OF BUILDING COSTS. A survey of all conditions affecting building costs and a study of the trends of these various factors would indicate that we are facing a period of very gradually declining costs, marked by certain fluctuations effected during periods of unusual demand.

What prospective building owners need now is definite information which will aid them in the realization that a period of stabilization has actually developed in the building industry. The architect is the logical person to convey this information to his client, and it is for this reason that he should be interested to an unusual degree in the economic phases of building construction.

ALSATIAN IRONWORK

A GROUP OF MEASURED DRAWINGS

By HOWARD MOISE

THE ironwork of Alsace, while certainly less distinctive and individual than the definitely characterized ironwork of France, Italy or Spain, has nevertheless a distinct character of its own. It is a character derived from the mingling of French and German influences, and no phase of Alsatian architecture records more clearly the long Franco-Teutonic struggle for the domination of the plain of Alsace and the long interaction of French and German traditions on the art of the country. Serving through the centuries as a highway between Germany and the Low Countries on the one hand, and Burgundy and the South on the other, Alsace has inevitably developed art forms which show a mingling of the two currents which met in its cities.

Strasbourg is very rich in ironwork of the eighteenth century which, though essentially French in character, possesses a quality all its own from the handling of the French motives with a certain naive freedom and picturesqueness that is wholly German. The little over-door from a baker's shop is an example in point. Here in the midst of a delicate and charming French motive two gilded lions hold a pretzel in their paws.

Sixteenth and early seventeenth century iron-work are not often met with in the streets, but many interesting examples, such as the cemetery cross, are to be seen in the museums of Strasbourg and Colmar. The explanation of the purpose of the little iron box with a hinged door in the center of the cross is of interest, whether or not it be correct. According to the custodian of

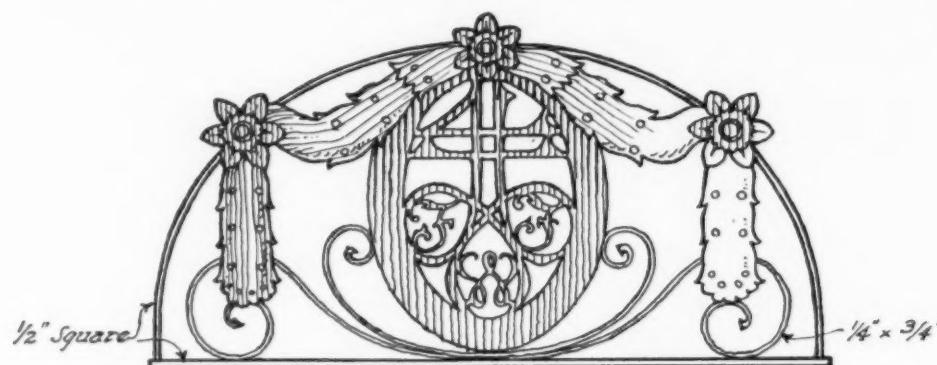
the museum its function was to serve as a depository for the cards of visitors to the grave. The emblem suggesting a turtle's back suspended from the seventeenth century sign bracket is also puzzling until one learns that the seven bulges represent mountains, and that the inn before whose door it hung bore the title, "Zu den Sieben Bergen."

Gothic ironwork is even more rarely met with, but here and there a few late Gothic grilles remain in the transoms over doorways. A favorite pattern is a simple grillage of sixteen squares, the four central squares adorned by a circle from which spring four berries, suggesting a highly simplified laurel wreath.

Almost more interesting than the wrought iron designs, however, are some of the simple metal signs which one finds in the villages and small towns. These are no doubt of fairly recent date, probably early nineteenth century. The wrought iron brackets are of extreme simplicity, but they are often marked by great beauty of line. The sign itself usually consists of a wreath, either round or oval in shape, made up in the round, of little laurel leaves each cut from a separate piece of sheet metal and bound together by metal ribbons at top and bottom. Within the wreath is a flat metal cut-out depicting the name of the inn which usually occurs again in lettering on a ribbon suspended below the wreath. The leaves are painted green, the ribbons gilded, and the cut-out symbol is done either in naturalistic colors or in black and gold.

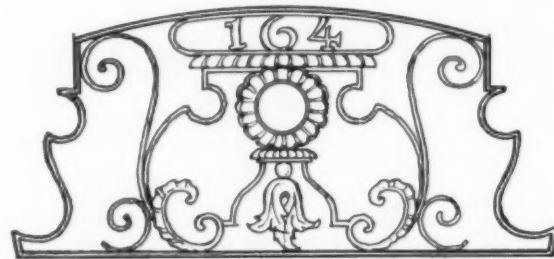


A Square in Strasbourg Showing the Cathedral



FANLIGHT

Flat Plate $\frac{1}{6}$ " thick pierced. Swags and Flowers $\frac{1}{32}$ " repoussé.



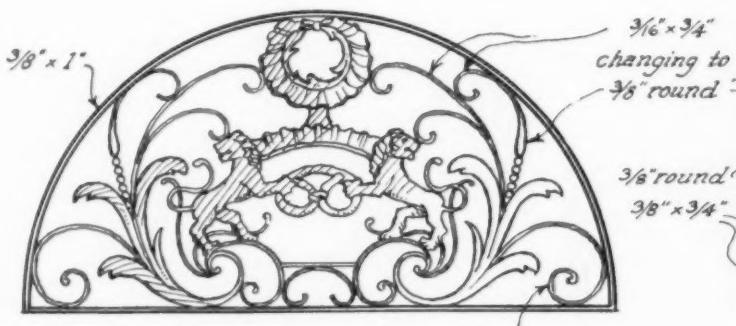
OVERDOOR

$3/4" \times 5/8"$ varying to thinner.
Leaves & Frill $1/32"$ repoussé.



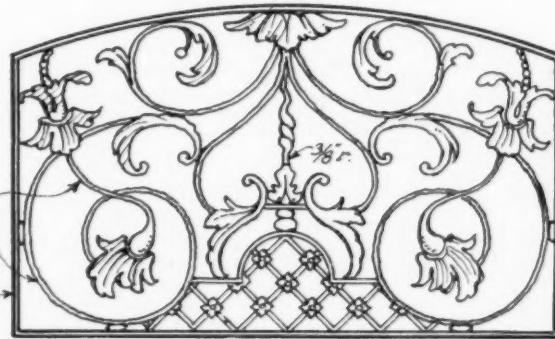
FANLIGHT

$3/16" \times 5/8"$ varying to thinner. Moons, leaves, etc. $1/32"$ repoussé riveted on.



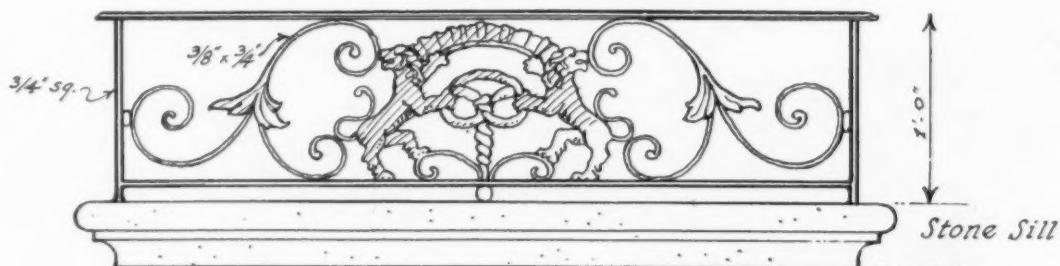
FANLIGHT

From Baker's Shop. In general $3/6" \times 3/4"$. Lions, pretzel, frills, & leaves $1/6$ " thick, repoussé.



OVERDOOR

About $3/8"$ on face - $3/64$ " thick - Rosettes repoussé - Leaves $1/64$ " thick repoussé.



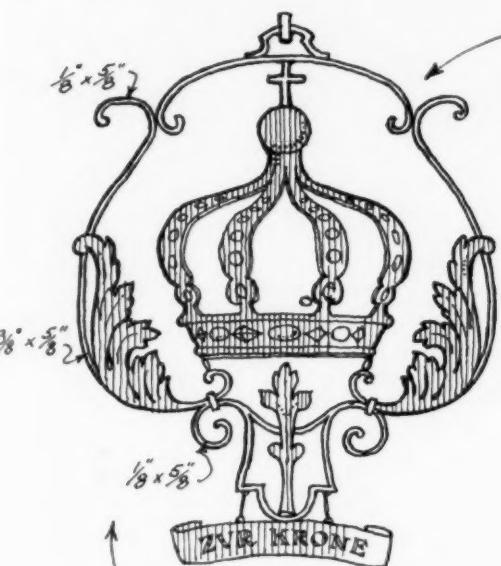
WINDOW GRILL
from Bakers Shop.

Scale 1"-1'-0"

ALSATIAN
DETAILS
1922

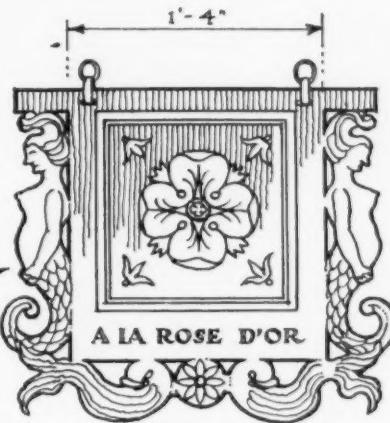
EIGHTEENTH CENTURY IRONWORK
STRASBOURG - ALSACE

MEASURED and
DRAWN by
HOWARD MOISE



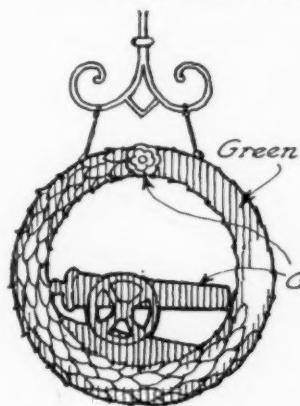
CROWN
in the round and gilded
with jewels repoussé &
colored..

SIGN
of sheet iron $\frac{1}{16}$ " thick
painted black and gold
Mermaids and dolphins
in color...

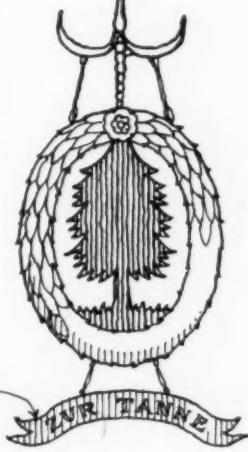


Strasbourg

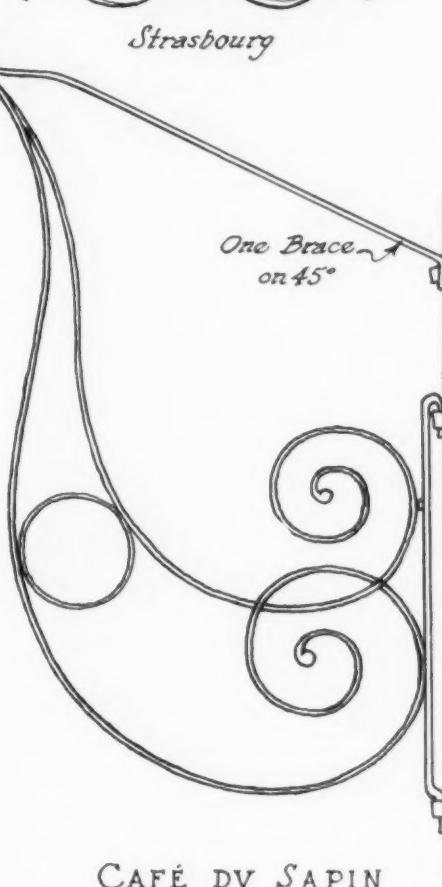
Frame in one plane.
Leaves $\frac{1}{16}$ " thick, repoussé
attached each side.



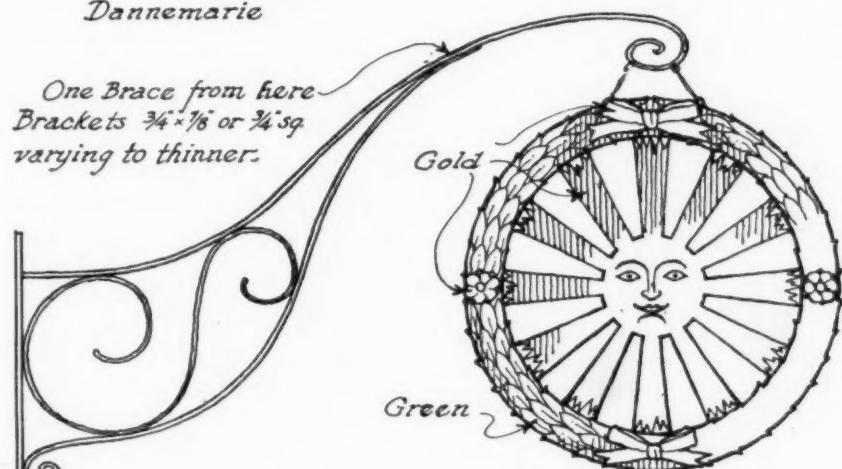
AV CANON D'OR
Dannemarie



One Brace from here
Brackets $\frac{3}{4} \times \frac{7}{8}$ or $\frac{3}{4} \times \frac{5}{8}$
varying to thinner.



CAFÉ DU SAPIN
Dannemarie



CAFÉ DU SOLEIL
Hagenbach

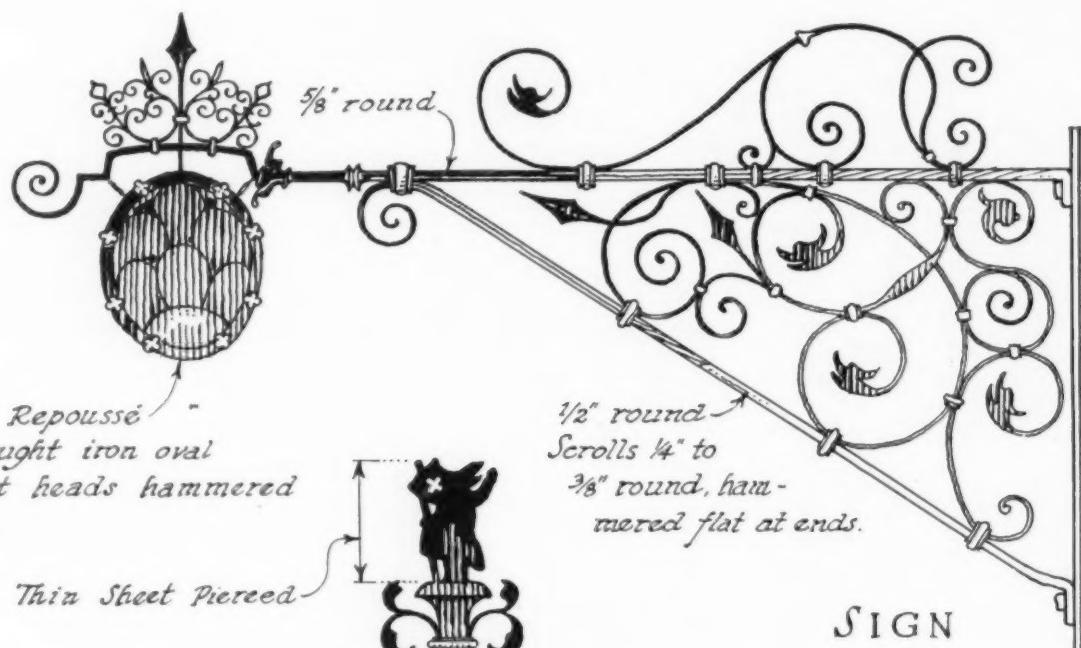
Devices cut from sheet
metal, painted or gilded &
outlined in black. Wreaths
round in section, each leaf
cut from thin metal, shaped
and painted green.. Ribbons
and rosettes thin metal gilded

Scale 1"-1'-0"

ALSATIAN
DETAILS
1922

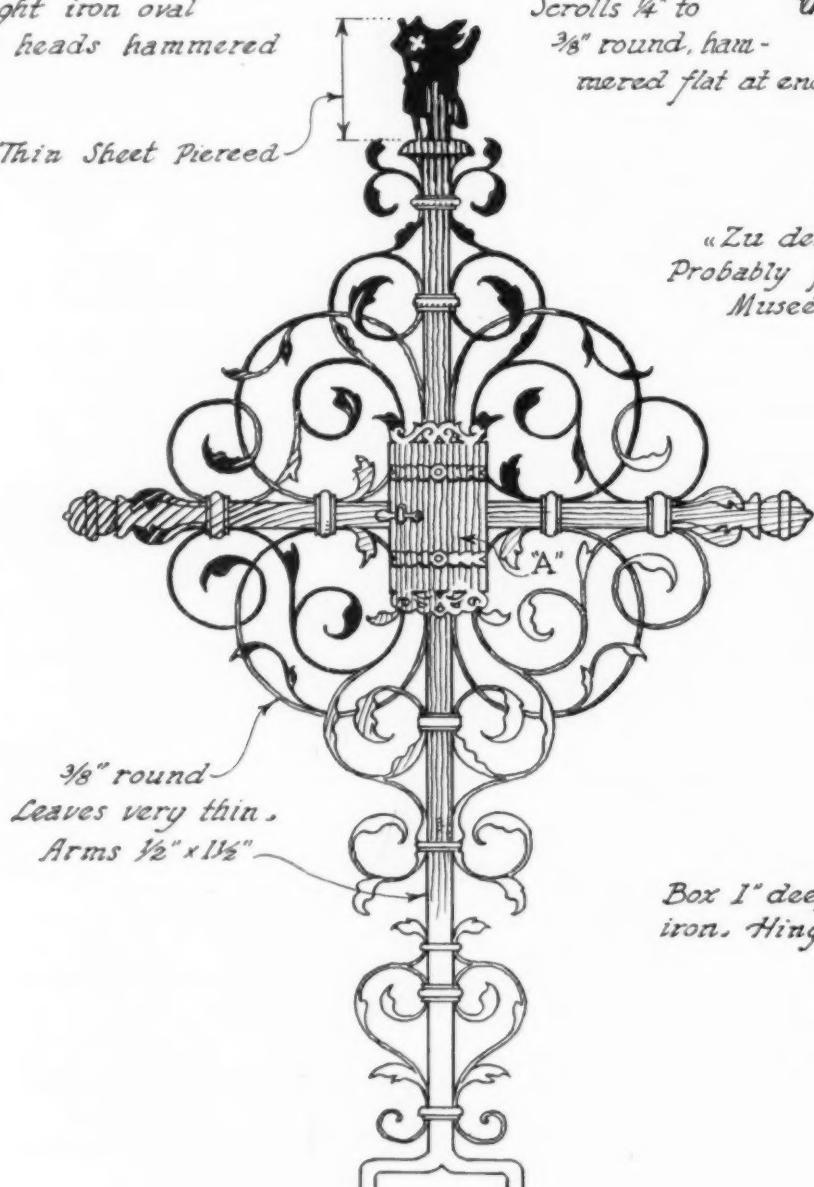
- EIGHTEENTH CENTURY SIGNS -
- ALSACE -

MEASURED and
DRAWN by
HOWARD MOISE

**SIGN**

“Zu den Sieben Bergen”
Probably from Altbreisach-
Musée Schongauer.

SECTION
through end of Arm.

**CEMETARY CROSS -**

Musée Schongauer

Scale 1"-1' 0"

ALSATIAN
DETAILS
1922

SEVENTEENTH-CENTURY-IRONWORK
• COLMAR • ALSACE •

MEASURED and
DRAWN
by
HOWARD MOISE

ENGINEERING DEPARTMENT

Charles A. Whittemore, Associate Editor

Electrical Wiring Layouts for Modern Buildings

PART IV

By NELSON C. ROSS, Associate Member, A.I.E.E.

IN the preparation of plans and specifications for the electrical equipment of a structure of any kind, the use for which the building is intended must be considered.

Electrical Cooking Apparatus. If cooking with the use of small portable equipment is to be considered, this equipment requiring from 500 to 2,000 watts, a 20-ampere receptacle or heater combination, fitted with pilot lamp and switch, together with a circuit of two No. 10 or 12 wires (depending upon the distance to the panel board) will be ample to take care of the load. If one of the large stationary ranges is to be used, there must be a separate circuit running from the service connection to the range; this should be independent of the lighting feeders, and provision should be made for metering this circuit separately at the meter board. The circuit should terminate at an outlet box or fitting, and conduit should extend from this outlet to the range, when the range is set in position. The larger ranges have a panel board, properly fused, in the body of the range and the circuit should terminate in this panel box, the wires connecting directly to the studs of the main fuses or switches.

The size of copper to use for the operation of the range will depend upon its capacity; the ampere load when every unit is in use should be ascertained, and the copper proportioned to take care of this load. As a rule not less than No. 6 wire should be used on the average household range. The circuit will be of two wires or three wires, depending upon whether a two- or three-wire service supplies the building. The wiring contract will require the circuit to be complete from the service connection to the range outlet, 6 feet being left on the wires to permit the later connection to the range. The contractor setting up the range, as a rule, will make the final connections.

Power Circuits. If the building is large there may be required an electric elevator or a stationary refrigerating plant, as well as the motors for the laundry, referred to elsewhere. If the power service is supplied over separate service lines, the power service should be in all respects separate from the lighting service, the power operating on a two- or three-phase current, while the lighting service operates on a single-phase current. It is seldom, however, that more than one service is used for resi-

dence work, both motors and lighting being supplied from the single-phase service.

The small motors used in the kitchen, and portable motors for use elsewhere, may be plugged in the different receptacle outlets and thus operated from the lighting circuits. The stationary motors of from 1- to 5-horse power capacity should have separate circuits in the building. All stationary motor circuits should be metered separately from the lighting circuits, as there is a special rate for motor operation.

On the two-wire system both the motors and lighting will operate at 110 volts. On the three-wire system the lighting will operate at 110 volts and will be connected to balance on both sides of the three-wire system. The motor circuits will, however, operate on 220 volts and will connect across the two outside wires of the three-wire system. At each motor there should be installed an enclosed type safety switch, fused to protect the motor, the conduit and circuit passing through the switch box and terminating at the motor in a fitting of the condulet type. On alternating current circuits a switch alone is required to start motors up to 5-horse power. On direct current circuits each motor requires a starting box or controller in addition to the switch; the starting box is as a rule located at the side of the starting switch.

Where an elevator or refrigerating plant requiring an automatic type of controller is used the electrical contract requires the wires of the circuit to terminate in the switch referred to, and all connections from the switch to the automatic controller and motor are made under the contract for the equipment. Where the equipment just described is used, there should be a drop cord outlet located near the machine, this connected from the lighting circuit.

Panel Boards. The panel boards or cutouts will be of the two-wire or three-wire type, depending upon the service. If the two-wire service is supplied the panel will be equipped with two-bus bars and two-wire branch circuits; these panels are known as the "two-wire main and two-wire branch"; a typical two-wire panel is shown in Fig. 1. This panel is of the plug fuse type, without switches in mains or in branch circuits.

If the three-wire service is supplied the panels

will have three-bus bars and two-wire branch circuits. The voltage between the neutral and either outside bus will be 110 volts, while the voltage between the two outside bus bars will be 220 volts. These panels are known as "three-wire main and two-wire branch." Fig. 2 shows a typical panel of this type; this panel is equipped with both switches and fuses in the branch circuits. The panels may be made with fuses only in the branch circuits or with fuses and switches in the branch circuits, and also in the mains and with either knife blade, push button or snap switches or with plug or N. E. Code fuses.

In residence wiring the panels are usually installed in the basement and it is seldom that other than the fused type of panel similar to that shown in Fig. 1 is required. If it is desired to control the branch circuits from the panel, then switches should be added to the branch circuits as in Fig. 3.

If a certain section of the building is controlled from any one panel, and it is desired to cut the entire service to that section out at will, then there should be added a fused main switch on the panel, this connecting directly with the bus bars. If the panels are located in conspicuous places and it is desired to control the branch circuits from the panels, then panels of the safety type are used. (See Fig. 3.) These panels have the fuse plugs in separate compartments and are fitted with push button switches; all exposed copper is under lock and inexperienced persons may operate the switches without danger of being shocked.

Panel boards may be made

up with porcelain cutouts installed in steel cabinets, the bus connections being made with the proper sized wire. These "made up" panels, however, cost nearly as much as the standard slate fuse panel, require more room and in the long run are not as satisfactory. Branch circuit fuses on 110-volt work may be of either the N. E. Code or the plug type; the plug fuses are less expensive to replace, but are more unsightly when used in connection with open panel boards. Plug fuses are not used above 30-ampere capacity.

Panel boards should be installed in steel cabinets, either of the flush or surface type; each cabinet should be fitted with hinged door and lock; a gutter space should be partitioned off on all sides of the panel, the circuit wires concealed in this gutter and passing through holes in the partitions for connection to the fuses. Each circuit should be numbered and a schedule posted on the inside of the door, showing the outlets controlled by the circuits for convenience of operation.

The system, when finished, becomes a network of wires, the current feeding in over the "service wires" to the "service switch" and from the "service switch" (through the meters) over the "feeder wires" to the "panel boards," and over the branch circuits from the panel boards to all lighting outlets. Each branch circuit from the panel boards to the outlets is composed of two No. 14 wires, these circuits carrying not more than from 6 to 10 amperes. Each branch circuit is fused with a 6- or 10-ampere fuse.

The sizes of the feeder circuit are determined by

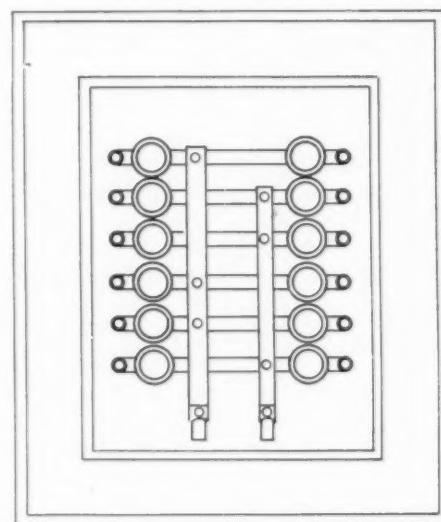


Fig. 1. Two-wire Panel Board

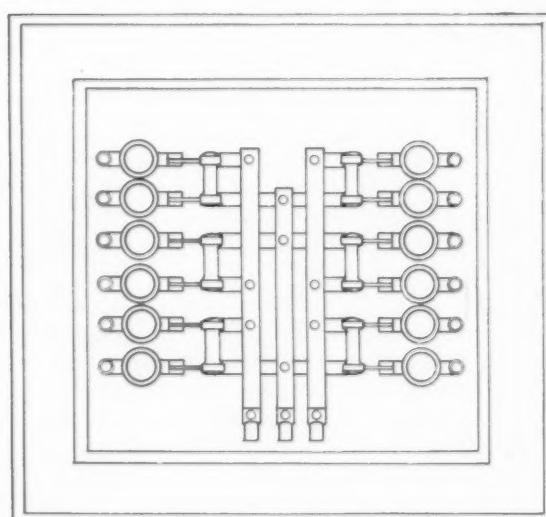


Fig. 2. Three-wire Panel Board

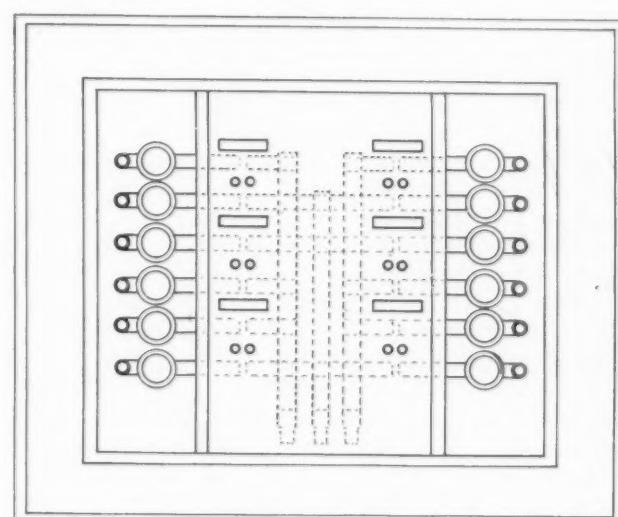


Fig. 3. Safety Type Panel Board

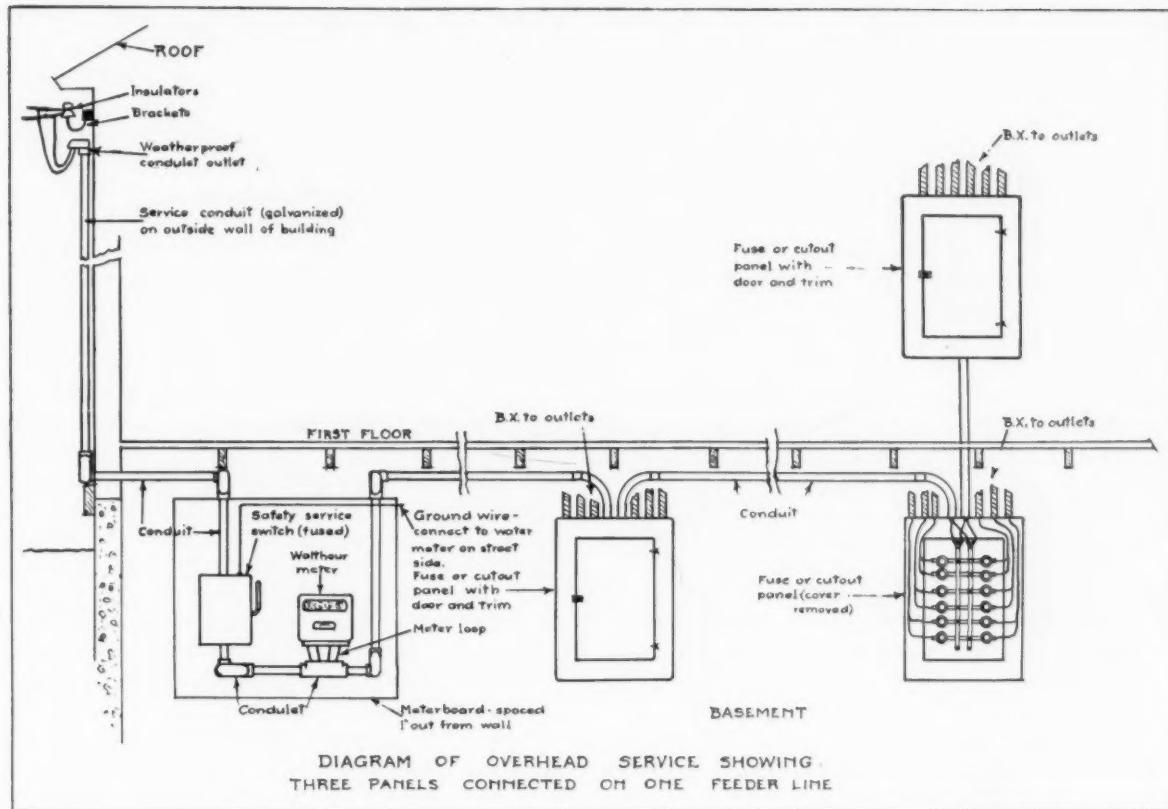


Fig. 4

the ampere load required by the total number of panels connected to the feeder (the ampere load depends upon the wattage required by the outlets) and wire of the proper carrying capacity selected. The feeder circuits are protected by fuses at the service switch. The service wires from the "service switch" to the lines of the service company must be of the total capacity of all the feeders in the building.

Service Connections. The service switch and meter board must be located in the basement, at a short distance from the point where the wires enter the building. The service switch must not be located on stairs or in a place where it is likely to be disturbed, but it must be accessible for the replacement of fuses and the reading of the meters. In some instances the exact location of the service switch is determined by the local inspector. If the building is located in a city where underground service is furnished, then the service to the building will be underground from the nearest manhole of the system. If overhead service is general, the service to the building may be overhead from the nearest pole to the building, or underground cable may be used from the nearest pole to the building.

With overhead service the wires pass from the nearest pole to brackets on the building. This work is done without charge by the service company. The wiring contract requires a conduit with weatherproof head on the outside of the building, the wires passing through this conduit and terminating in the service switch. (See Fig. 1 in March

issue.) If underground service is desired, a conduit may be run from the nearest pole down and underground to the building, terminating in a junction box on the inside of the basement wall (Fig. 2 in March issue). Conduit must continue from the junction box to the service switch, and rubber covered lead sheathed wires must be run in the conduit from the junction box to the pole.

If desired, "steel tape armored cable" may be run from the junction box to the pole in place of the wires in conduit; this cable is protected by a lead sheath over the insulation, two tapings of steel and two coverings of jute impregnated with waterproof compound; it is merely dropped into a trench and covered, but it should be protected with iron pipe where it passes from the ground and up the pole. The service wires should be protected by a pothead at the point on the pole where they connect with the line wires.

It is the custom for the service company to bring its wires to a point at the edge of the consumer's property, and if the building is near the street and no poles are required set on the property, the company will swing its wires from the pole to the brackets on the building without cost. If the distance from the street is so great that poles are required set on the property, then the cost of the connections from the street to the building must be paid by the consumer; or if underground service is required, the consumer must bear all expense of this service from the pole to the service switch.

The size of the service wires will depend upon

the load; no service wires, however, smaller than No. 6 B. & S. gauge should be used. The meter and service board should be of wood, securely fastened and fastened to the wall. It should be painted with two coats of asphaltum or other suitable paint as soon as installed. The service switch should be of the safety type, with fused switch installed in steel cabinet and operated from an outside handle. The wires of the service terminate in the fuse studs of the switch. Where not more than 10 or 12 circuits are used on the panel board, and the average length of the circuits does not exceed 60 feet, the panel service switch and meter are generally mounted on the service board. (See Fig. 2 in March issue.) Fittings of the condulet type are used, the meter installed with all wires under iron, and the B.X. wires or conduits are carried directly from the panel board to the outlets.

For small installations there are several "metering service switches" obtainable where the meter and service switch are combined in one box or cabinet. The installation however would be the same as indicated in Fig. 2 except that the meter and service switch would be combined. Where the average length of the branch circuits is more than 80 feet, or where there are a great number of circuits installed, it is advisable to make use of two or more panel boards, each board feeding a certain section of the building. The panels may be located in the basement or on the different floors. They should each be set approximately at the center of the distribution of the circuits they control. Where the building is in several sections, it is generally advisable to provide a panel board for each section of the building.

With the use of a number of panel boards, the meters and service switch are located at the point of entrance and the feeder circuits run in conduits from the service switch to the panels, either singly or connecting them in group as indicated in Fig. 4.

If a large electric range or motors are to be used, requiring separate feeder circuits from the service board, a meter as switch for the control of each circuit would be installed on the service board in addition to that shown in Fig. 3. Where motors are required for elevator and refrigerating service, as well as for use in the laundry, it is advisable to run one feeder circuit from the service board to a central point, terminating the feeder in a steel cabinet containing branch cutouts, and to run separate sub-feeders from the cabinet to the different motors and equipment, each sub-feeder to be fused in the cabinet to protect the circuit.

Bell Circuits. The wiring contract should include all wiring for electric bells. In smaller houses but two bells are required, one ringing from the front and one from the rear door, the bells as a rule being located in the kitchen. The bells should be

of different tones. Batteries should be in the basement; three or four dry cells are required. As the bell circuits require from four to eight volts, the wires may be run in second class construction without protection; if so installed however, they should be secured to the timbers with insulated staples and they should not be run near steam piping.

In buildings of first class construction, conduits must be used; if possible, however, conduits or flexible tubing should be used for the bell circuits in any class of construction, so that in the event of trouble the wires may be withdrawn and replaced without disturbing the walls and finish; it is also advisable to use No. 18 rubber-covered wire for all bell circuits, rather than moisture-proof or annunciator wire, formerly used for this work. If the wires are installed without protection, porcelain tubes should be set in the walls at the points where the wires pass from the walls to the bells and push buttons; wires should not be permitted to come in contact with plaster. With the use of conduit, a standard outlet box should be set at each outlet, the cover to be adapted to the type of bell or button used. Flexible tubing is simply brought out of the wall and into the back of the bell or button.

The batteries may be set either on a small shelf or in a wood or steel cabinet; with the batteries in a central location the conduit may be run from the cabinet to the bell, location wires of both circuits to be run in the one conduit, separate conduits then being run from the cabinet to each button, the wires drawn in and all splices made in the cabinet. If batteries are not desired, a bell ringing transformer may be installed; this should be set at a point near the lighting panel, and connections made with the lighting circuit through 3-ampere fuses. All connections from the panel to the primary side of the transformer should be made in conduits and in accordance with the rules governing the installation of the lighting circuits.

Where a more extensive bell system is required, an annunciator is used, this being located in the kitchen or at the servants' station, with push buttons at each door, under table in dining room, in bathrooms, halls and in the bedrooms. At times a second system is required with annunciator in maids' corridor, this connected with separate buttons in the different bedrooms. If signals are to be answered from two points, as from the kitchen section and from the servants' corridor also, two annunciators are used, these being duplicates and connected in multiple, so that any call is registered on both annunciators. The resetting button may be mounted on the frame of the annunciator, or the circuit may be extended and the button mounted in any desired location. The type and capacity of the battery will be the same, regardless of the number of stations.

Some Facts on Warm Air Heating

PART II

By L. A. BRISSETTE

IN laying out a heating plant of any character, whether for warm air heating or steam, the architect should first calculate the amount of heating required for the various rooms. This is represented by square feet in radiation or by register sizes in hot air installations. In the latter system, if the furnace and the heating conductors are proportioned properly for the various rooms, it is possible scientifically to calculate the exact amount of coal to be burned per square foot, as well as the number of B. t. u. required to heat the rooms, but since the architect's plans are usually not intended to confine the contractor or the heating engineer to the strict limitations indicated, but are merely a guide on which a comparative figure may be based, it is not always desirable that these items be figured to the accurate limit.

In the heating specifications a clause should be inserted to the effect that "the sizes of registers, pipes and furnaces are minimum sizes and must not be reduced but may be increased by the contractor if, in his judgment, it may be necessary in order to enable him to guarantee to heat all the rooms to 70° in zero weather." This will be found to protect the owner's interests as effectually as though the architect carried his calculations to the last decimal point from scientific analysis. There are short-cut tables which may be obtained from the various manufacturers of the heating units or from various text books which are of value to architects, and which can always be used in determining the sizes of the various registers, pipes, etc.

Figs. 1 and 2 show an installation in which the heating company which furnished the heat pro-

ducer were also the engineers on the work, and it may therefore be taken as an example to show the correct proportions of the various parts of the system from the heating engineers' standpoint.

In the March issue the basement plan of this same residence was reproduced. This plan shows a typical arrangement of the heater and pipes with the basic idea of equalized runs. Figs. 3 and 4 show two tables indicating different methods of calculating the area of pipes and the amount of register surface required. One, as will be noted, refers to the air change. The other refers to the exposed wall and glazed surfaces. A careful analysis will show only slight variations in the calculations, whichever method be adopted. It is always advisable for the architect to approximate the sizes of pipes and registers before sending plans out to be figured, and these tables will be found of great assistance in the work.

Another thing which must be considered with proper care by the architect in installing a hot air heating system in a house is the position of the registers. In a previous article it was noted that the registers, from the standpoint of housekeeping, should be in the walls, and in this position they are no less efficient from the heating engineer's standpoint than they are in the floor. Some people prefer floor registers; some people prefer wall registers, so that the matter of choice enters largely into the determination of this particular question; but one thing which cannot be left to choice is their position in relation to exposed walls.

In steam or hot water heating the radiators are placed near the windows or under windows or ex-

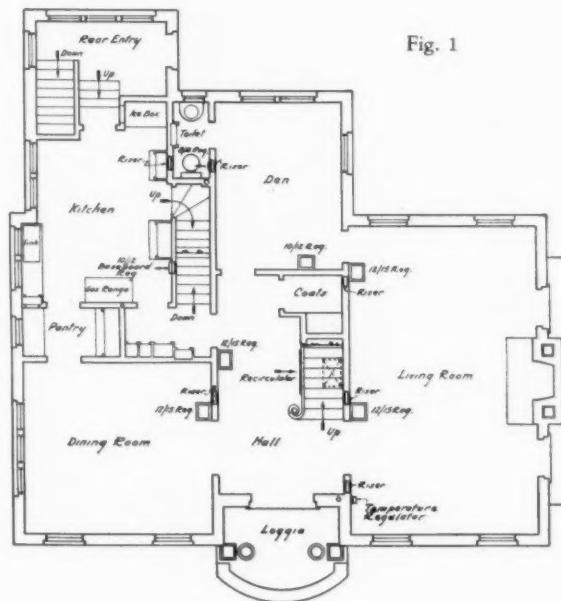


Fig. 1

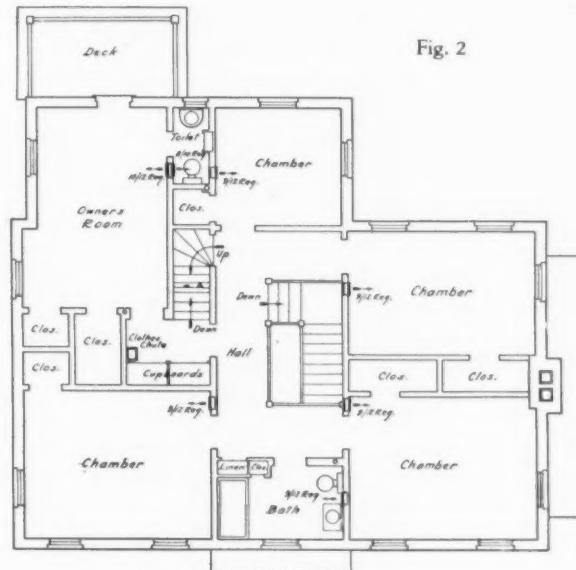


Fig. 2

posed walls, while in a hot air heating arrangement the registers should be placed, not under the windows but on the *opposite* side of the room, the theory being that as the warm air rises to the ceiling, it travels across all the exposed wall surface where it is chilled and thence drops to the floor on account of its increased weight. Thus a positive circulation is established which helps to draw the warm air into the room and more effectually heat all parts of the room. The warm air register located directly under a window, for example, would be in a very disadvantageous position because of the current of cold air coming down the wall and down the surface of the glass, having a tendency to form a cold blanket directly over the register surface. Under these conditions sufficient pressure must be applied to the warm air column to enable it to force its way through this blanket.

The installation of the pipes, in connection with the hot air heating system, is deserving of considerable thought and attention. Where these pipes are concealed in partitions it is desirable to see that they are so arranged and constructed as to minimize the heat losses and also to serve as a protection against the possibility of the spread of fire through these pipes. Fire cannot originate in or be caused by the hot air furnace itself, but with the pipe openings carried up through the partitions, there is a natural chimney formed which might easily carry flames from one part of the building to another provided the pipes were not made sufficiently tight at the joints.

In addition to the tight and rigid construction of the pipes it is quite essential that either a layer of asbestos paper or some other insulating medium be placed over the outside of the pipes or that an additional pipe be run enclosing the heater pipe. This double pipe construction forms a dead air space outside of the heat conductor which, in itself, is good insulation. Where these pipes pass through floors, the edges of the floors and the timbers should be protected by a metal or asbestos covering, and wherever the pipes pass through a partition or through studding, a similar metal or asbestos sleeve should be provided as additional fire protection.

Many times the pipes in the basement are extended from the heater to meet the rising lines without having the proper supports. In the case of long runs, supports should be provided at intervals of not over 5 feet so that the pipes may be rigidly secured to the timbers overhead. This will prevent the sagging of the pipes and consequent opening of joints with attendant heat loss.

No heating system is complete, where hot air is the medium employed, without establishing a complete recirculation system. In Fig. 1 the recirculation register shown at the side of the stairs is installed in order to facilitate the circulation of air and also to prevent cold drafts down the stairs. In very mild weather, all of the air entering the furnace may be taken from out of doors. In colder weather, the outdoor opening may be tightly closed and all

of the air taken through the recirculation register. This is a more convenient and more economical method of heating in cold weather than taking the entire air supply from out of doors, and inasmuch as the opening and closing of outer doors and the leakage around windows and doors always provide a certain amount of fresh air in the house, there need be no concern about using the air over and over again.

In more recent years the general public has become much more intelligent as to the advantages of the hot air type of heating, and it is only fair to assume that before long the unjust criticisms which have been applied to this system of heating will be entirely done away with and then we will no longer hear the complaints about dust, gas and cold rooms when a hot air system is mentioned, because these are not due to the hot air system itself but to shortcomings in the other portions of the construction work, which the architect must see are properly carried out.

Room	Size	Cubic Contents	Changes Per Hour	Air Velocity	Square Inches	10% Fric. Res.	Total Sq. In.	Diameter Pipe Used Area Sq. In.
First Floor								
Living Room.....	15 x25 x8½	3188	6	250 184	18	202	{12* 10*	191
Dining Room.....	14 x15 x8½	1785	5	250 86	9	95	12*	113
Den.....	10 x14 x8½	1190	5	250 58	6	64	10*	78
Kitchen.....	12 x14 x8½	1428	5	250 68.5	6.8	75	10*	78
Halls 1st&2nd.....	10 x18 x17	3060	4	250 115	12	127	12*	113
Second Floor								
N.E. Chamber	12 x15 x8½	1530	4	275 53	.5	58	9*	63
N.W.	12 x15 x8½	1530	4	275 53	.5	58	9*	63
S.W.	10 x15 x8½	1275	4	275 45	.5	50	9*	63
South	10 x10 x8½	850	4	275 30	.3	33	8	50
S.E.	12 x16 x8½	1632	4	275 57.6	5.8	63	10*	78
Toilet.....	3 x 6 x8½	153	4	275 5.3	.5	6	10*	75
Bath.....	6 x10 x8½	510	5	275 22	2	24	8*	80
2-18 x 26 Cold Air Ducts = 936 Sq. In.								
								Total Sq. In. Pipe Area 940

Fig. 3

Room	Size	Cubic Contents Sq. Ft. Exposed Wall	Sq. Ft. Glass Surface	Square Inches	Add for Exposure	Total Sq. In.	Diameter Pipe Used Area Sq. In.
First Floor							
Living Room.....	15 x25 x8½	3188	366	102 171	10% North	188	{12* 10*
Dining Room.....	14 x15 x8½	1785	187	60 97	10% West	107	12* 113
Den.....	10 x14 x8½	1190	117	45 69	10% Cold Entry	76	10* 78
Kitchen.....	12 x14 x8½	1428	181	40 72	10% North	79	10* 78
Halls, 1st & 2nd.	10 x18 x17	3060	37	48 83	10%	91	12* 113
Second Floor							
Deduct 10%							
N.E. Chamber	12 x15 x8½	1530	200	30 65	North N. & W.	65	9* 63
N.W.	12 x15 x8½	1530	200	30 65	0 W.	65	9* 63
S.W.	10 x15 x8½	1275	183	30 61	0 South	61	9* 63
South	10 x10 x8½	850	150	20 44	-10% S. & E.	40	8* 50
S.E.	12 x16 x8½	1632	200	38 74	-10% South	67	10* 78
Toilet.....	3 x 6 x8½	153	20	6 10	-10% North	9	10*
Bath.....	6 x10 x8½	510	75	10 23	0	23	8* 50
Total Sq. In. Pipe Area 940							

Fig. 4

Tenement House Planning

SOME NOTES ON CONDITIONS IN NEW YORK AS INDICATED
BY THE RECENT COMPETITION FOR MODEL TENEMENTS

TENEMENT houses are largely built by the speculative builder, and their planning is stereotyped because the builder has no incentive to plan any better than legal requirements demand. Conditions surrounding the financing and sale of tenements are also such that good architectural service is not properly appraised; in fact it may act as a penalty. As a consequence, architects of good training who enter this field do so at a sacrifice.

In speculative building of any type, the attitude of loaning institutions is of paramount importance. The builder is chiefly concerned with limiting the amount of his equity, and if an architect can help him do this he is eager to employ the architect. On the other hand, if the speculative builder can take his stock plans and get equal recognition by loaning institutions he sees no particular reason why he should employ an architect. This loss of employment to the architect in the general scheme of things is of little moment, but the loss to the public in being deprived of the buildings which conditions should make possible for the architect to create is of the greatest importance. With the realization of this there has recently been held in New York a competition for a tenement house that has particular interest because it serves to emphasize many of the basic fundamentals of the whole subject of housing for both the poor and those of moderate incomes. The Trustees of the Phelps Stokes Fund defrayed the expenses of the competition and have offered to supply, as an investment, the funds necessary to construct the winning design.

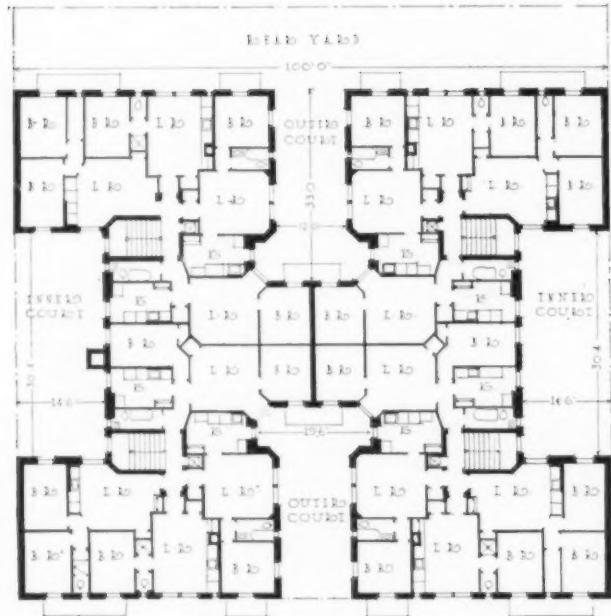
The competition was held with the hope of stimulating the development of better and more economical types of tenement houses and of securing preferential consideration and higher building loans, based primarily on the superiority and economy of design and construction rather than on actual cost. Specific objects sought were plans combining convenience of arrangement with privacy, good light and ventilation, cheerful outlook and as great a concentration of light and air spaces as possible. Preference was to be given, when other things were equal, to such plans as insured the development of these qualities to a still higher degree when the units were combined in block form.

In addition to these general qualities, several definite requirements were made a part of the program. Briefly, these were that a clear rentable area of not less than 56 per cent of the area of the lot should be provided and that 24 rooms should be arranged in the 50-foot unit and 48 in the 100-foot unit, exclusive of baths, that the apartments should consist of suites of 2, 3 and 4 rooms in the ratio of approximately 30 per cent each of 2- and 4-room

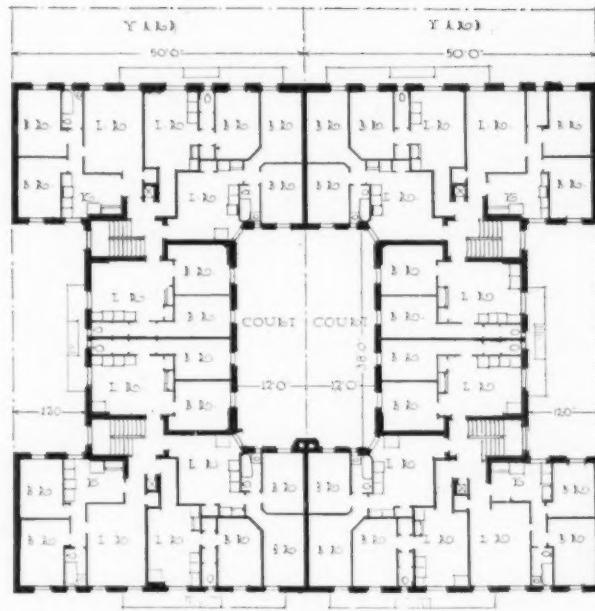
apartments and 40 per cent of 3-room apartments. Each apartment was to have a bathroom. If the designer elected to incorporate sink, wash tubs, gas range and refrigerator in the living room and group them in such a way as to make possible shutting them off from the room by a curtain or light doors, and if the area of the living room with this strip shut off equaled at least the minimum area required by the tenement house law, 46 rooms were considered the equivalent of 48. This requirement of 48 rooms per floor placed the designing of a model plan on the same basis as actually holds in practice today, and permitted the competitors no opportunity for the use of their inventive genius except in the cutting up into rooms of the space that actually had to be built upon to produce this number of rooms of fixed sizes and which practically demands that 70 per cent of the lot be covered by the building.

The plans that were awarded the prizes are probably as good a group of three plans as could be devised to meet these specific conditions. It is an interesting fact that the plan awarded first prize differs only in slight degree from that awarded first prize in a similar competition held 20 years ago and on the results of which the present tenement house law was formed. The devices that have been adopted in these 20 years have all tended toward the squeezing of more people into smaller spaces and it is a natural question to ask if this is the basis on which we can really improve housing conditions. The problem has always been, and is now, how can we secure the maximum net return from a building that can be fitted to a given plot of land. On high valued land this has always seemed to mean congested living quarters. This condition was accepted in this competition and no opportunity was allowed for disproving it.

A few demonstrations have been made within recent years on land of moderate cost (\$20,000 for a 100 x 100-foot plot, for example) that a building covering but 60 per cent of the lot will return an equal or better rate of interest than one covering 70 per cent, assuming the same unit rate of rent per room. Andrew J. Thomas, architect, of New York, has perhaps given more study to tenement house planning from this viewpoint than any other architect and he claims in block developments to be able to place a building containing 42 rooms on a plot 100 x 100 feet and produce the same percentage return on the investment as a building containing 48 rooms, putting the area thus saved into courts which will provide better light and ventilation. Mr. Thomas in fact goes still further with this theory: he claims that a building containing 36 rooms and covering a total area of 5500 square feet



First Prize Plan, Sibley & Fetherston, Architects



Second Prize Plan, Frank J. Shefcik, Architect

can be placed on a 100 x 100-foot plot of any value, which would be proportionate to 46 rooms per floor and give the same percentage return.

We illustrate one of Mr. Thomas' plans and give an analysis worked out by Frederick L. Ackerman of its area, cost and income compared with the same items of the first prize plan. The Thomas plan follows the general scheme of one he submitted in the preliminary competition except that it has 42 rooms to a floor instead of 46 as required in the competition. This plan in a block development would provide side courts, making a 12-foot opening between the buildings. It is here used in comparison with the prize design, since when its two isolated units are reversed in position we have a form which compares with that of the prize design but with this important difference—the courts extend through from front to rear. The area of the Thomas plan is 5988 square feet per floor of 42 rooms. Comparing it with the prize plan and assuming a cost of \$40,000 for the land, 35 cents per cubic foot for cost of construction and the average rental per room \$8 per month, the building to be considered a 6-story walk-up, 70 feet high, we have:

Prize plan, land and building	\$207,359
Thomas " "	186,706
Difference	\$20,653

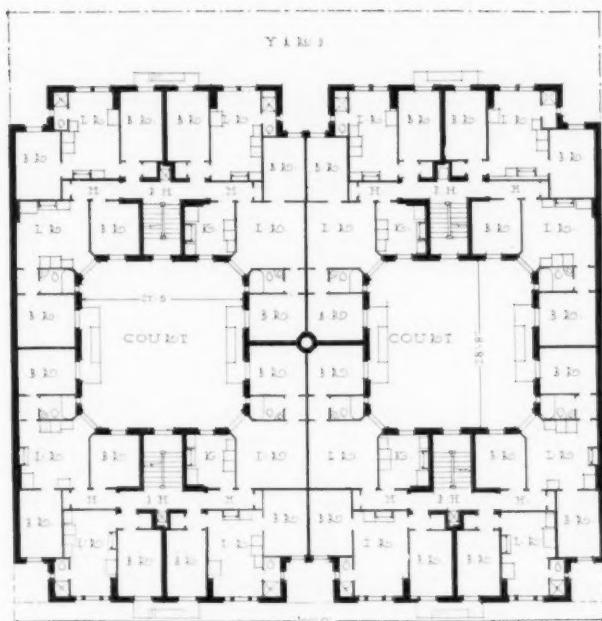
The Thomas plan contains four less rooms than the prize plan which would reduce the rental income by \$2,304 per year. With this reduction the figures are:

Prize plan, land and building	Gross income Per cent	
\$207,359	\$26,496	12.7
Thomas " 186,706	24,192	12.9

In addition to the savings which these figures seem to demonstrate clearly, the simple shape of the

enclosing walls and the less complicated partitioning of space within the building should provide a further advantage in cost of construction to the Thomas plan which would be reflected in the rate of income. The disposition of the space not occupied by building constitutes an important part of the plan problem. In a block development it is quite generally admitted that the arrangement of the Thomas plan which provides for through ventilation is more desirable than that of the first prize plan where at no point would there be a through sweep of air from front to rear.

In considering the two plans for a single inside 100-foot lot, criticism has been directed to the narrow side courts of the Thomas plan which are, however, in full compliance with the tenement house law. Concentration of court space is held to be desirable and in fact was mentioned as a specific object in the program for the preliminary competition. It would seem that the light and air derived from the central court of the Thomas plan and serving more than half the building are greater in volume than that from a similar gross area divided into four courts as in the case of the first prize plan. While 6-foot side courts would provide a free passage for air, they would not adequately light the rooms facing on them, but a condemnation of these courts cannot be made with the consideration of this one point. If this building were to be so located that a solid wall existed on the party line, these side courts would be inadequate, but building in New York is governed by the zoning law and a tenement cannot be built adjoining a factory, warehouse or other building which would be likely to be built up solid to the party line. Another tenement would most likely be the adjoining building, and in order to take light from that side it would have to be set back 6 feet, giving a 12-foot court between the buildings, or if it were so planned that an interior court were arranged



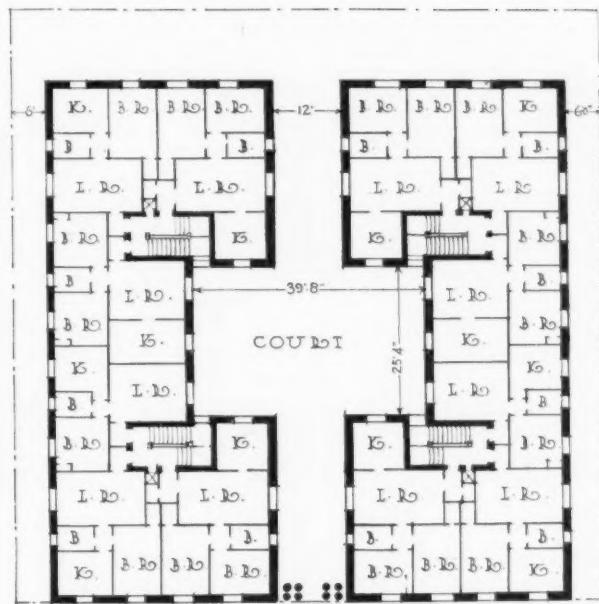
Third Prize Plan, John Tompkins, Architect

with an opening on the lot line, this court would have to be 12 feet wide, giving between the buildings a court with a total width of 18 feet and openings to it from the front and rear 6 feet wide.

Assuming the most unfavorable conditions under which the side courts would function, it may be noted that the plan is arranged to have the less important rooms take their light and air from the side courts. The important rooms are grouped about the large central court from which they secure an abundance of light and air which permeate the whole apartment, and by having positive circulation through all courts and a concentration of space in the center, a real cross ventilation through all apartments can be counted upon.

In spite of the evident physical advantages of this open type of plan, a paradox is uncovered when we consider it from the viewpoint of financing. The average loaning institution today appraises new property on a basis of land valuation plus the value of the new building according to its character and the number of cubic feet contained—in other words, the skill of the architect in creating a plan providing greater rental efficiency in the building is not given sufficient consideration. An examination of these two types of plan shows several logical reasons why, other things being equal, a building covering the smaller portion of the given area and costing less money to build should be considered better collateral by a loaning institution. It is true that this is principally a consideration of plan, but when an analysis of the plan shows more desirable rooms from the viewpoint of light, ventilation and size, it is evident that during periods of rental competition between landlords,—in other words when there is no housing shortage,—the more desirable property will remain fully rented and will constitute a better real estate investment.

While there are a few loaning institutions which



Plan Based on One Submitted by Andrew J. Thomas, Architect

make a serious analysis of the plans of a building, there are far too many such institutions which do not give proper recognition to efficiency in plan and consequently undervalue the right kind of architectural service. The power to correct this condition lies largely in the hands of the architectural profession. The architect must learn to work more closely with loaning institutions.

Perhaps the recognition of more effective planning of buildings by our loaning institutions is slow because the establishment of a precedent of this nature entails a retroactive effect on collateral values of existing buildings. In other words, the recognition of efficient planning would tend to decrease the equity necessary for the construction of new apartment houses and housing of other types and would place in the market a class of property which offers more inducement to the investor in that he can obtain the same income through the investment of a smaller amount of money. Naturally, the establishment of values of this nature would have a tendency to force down the valuation of existing buildings in the same neighborhood to a relative ratio as between income and selling price. The only answer to this phase of the problem is that the shrinkage in value thus effected would probably not be of sufficient volume actually to endanger any investments of loaning institutions, nor would anyone suffer except those who have attempted to profit.

In considering the building up of the congested residential sections of American cities, a decision must be made as to whether the purpose in planning is to house as many families as possible on every city lot or to provide buildings in which better living conditions are really established and which offer better realty values from the investment viewpoint. Somewhere a halt must be called in the constant effort to concentrate domestic life within small spaces.

EDITORIAL COMMENT

ARCHITECTS AND TRADES UNIONS

If proof is wanted of the damaging effect of current trades union practices upon the activity of the building industry, the example of San Francisco may be cited. Fortunately the present picture is favorable and one from which we can take encouragement because it illustrates what happens when the misdirected activities of unionism cease.

For 25 years San Francisco has been the citadel of trades unionism; every important industry has operated under the closed shop principle and the unions' power extended itself even beyond industrial affairs and into city and state politics. The most aggressive of these unions were in the building trades. Following the most intolerable and chaotic conditions in 1920, an arbitration board rendered a decision in March, 1921, involving a 7½ per cent wage reduction. In spite of previous agreement to abide by the award, the unions stopped all work. The American plan of employment was adopted in June and an organization called the Industrial Association of San Francisco became sponsor for the plan and arranged for the employment of men and the establishment of a permanent wage board to insure to all concerned a square deal.

To perfect a system of employment built upon the wreck of the former system has required time. The building public is now satisfied that this has been done and that the oppressive and uneconomic restrictions which added unnecessary cost to building have been removed. The figures for the construction work begun in San Francisco in January of this year show the amazing sum of \$5,528,978, an increase of 170 per cent over the monthly average for the last two years and an increase of 222 per cent above the monthly construction at the beginning of the American plan of employment. A portion of this building program is undoubtedly the accumulation of work held up over several past months and will not be duplicated in later months. It proves, however, that there is a limit to public endurance and that the trades unions are their own worst enemies when they force acceptance of rules and conditions designed to benefit themselves solely.

The difficulties between employers and employees in the building trades are gradually coming to be looked upon as matters that concern the public, yet there is as yet no medium through which the public may be represented in the settlement. Contractors certainly have no particular interest in opposing the demands of labor, except as their opportunity for doing business is interfered with; as long as their costs can be passed along to the owner, the contractors have no need to worry—in fact their course

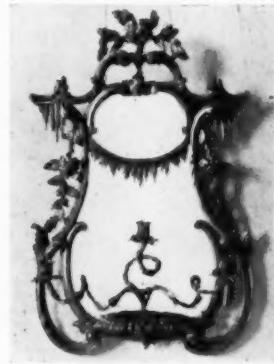
is easier to pander to the unions. It is not until the limit of the public patience is reached that a break comes, and then we realize the need of some check.

There is a steadily growing feeling that some movement should be instituted by architects that will provide an opportunity for the expression of impartial views and for representation of the owner, or in other words, the building public, and there seem to be many logical reasons why this should be done. In the first place, the architect is the agent of the owner and he is paid to protect his interests. The architect must protect him against unscrupulous contracting methods involving substitution of materials and careless construction. This means accurate specifications and thorough supervision. Just as important for the architect to consider are the conditions under which the contractor works; if he is hampered by destructive union rules that place a premium on inefficiency and contribute to higher costs by the rejection of any materials the union may designate, it is the duty of the architect to use any legitimate means to stop these abuses. A single architect or scattered groups cannot of course hope to combat evils so firmly entrenched as those that have been fostered by the unions over a period of years. Even so, no harm can come from the attempt and there are many possibilities of good in bringing architects' influence to bear on local conditions, because all elements will get a better idea of the reasons behind the various claims. The union man is too close to his own problem; he does not see it in broad perspective in conjunction with general economics. It is understandable that he should see a pecuniary advantage to himself in restricting output and placing territorial restrictions on semi-finished products. They are comparable to the adoption of a high tariff at the demands of manufacturers. This is, however, no defense of union principles and it is not our intention to discuss here the necessity or merits of either case.

Unions are unquestionably necessary and they will exist in one form or another; the important thing to prevent is an abuse of their power, exercised through scheming and unscrupulous leaders and business agents who have no higher object than maintaining their own advantageous positions. These execrable conditions are gradually eliminated by the action of economic forces, but they are in the same measure created again by different economic conditions, and much hatred and suffering are engendered in the process.

Certainly there must be a more rational way of meeting these difficulties, and architects should give serious thought to the manner in which they can contribute to the general welfare.

DECORATION *and* FURNITURE



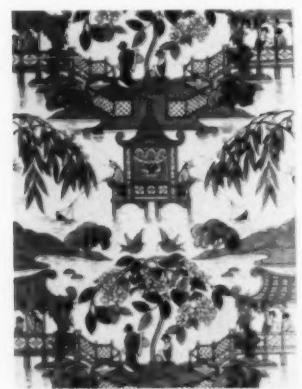
A DEPARTMENT
DEVOTED TO THE VARIED
PROFESSIONAL & DESIGN INTERESTS
WITH SPECIAL REFERENCE TO
AVAILABLE MATERIALS



Velours de Gene in
Black Ground and
Colors with Pattern
only in Pile



Arm Chair with Geometric Diaper in Back
and Cresting in Georgian Spirit



Modern Wall Paper
Based on Traditions of 1750



Antique Chair with Sankage of Frets and
Typical Leg Brackets at Seat Rail



Sofa with Tapestry Covering in the Chinese Taste, Legs and Stretchers Carry Frets Inspired by the Orient but Verging on Gothic

EXAMPLES OF "CHINOISERIE" MOTIFS IN GEORGIAN DECORATION

Furniture by Courtesy of W. & J. Sloane

Chinoiserie in English Decoration

By WALTER F. WHEELER

THE rather formal dignity of the eighteenth century English styles is sometimes in need of a note of lightness and gaiety to afford contrast to paneled walls, classic detail and more or less architectural furniture, and this need is supplied by that use of oriental motifs which the Georgian architects summed up in the general term "Chinoiserie." This admirable use of airy brightness in decoration came into England originally, like so much of what made interesting the houses of the eighteenth century, by the way of Holland, and the term designated the use of Far Eastern motifs not only upon fabrics and wall coverings of different kinds but also as ornament for furniture, and as painted decoration galore upon furniture, glass and other materials, decoration used in every conceivable way—scenes of Chinese life showing bridges and boats, or else of Chinamen, fantastically dressed and ascending impossible



Lacquer Decoration on Chair of Early Georgian Tendencies

would be spared for the simplicity of line.

Sir William Chambers, then architect to George III, was chiefly instrumental in correcting the excesses into which the style was being carried

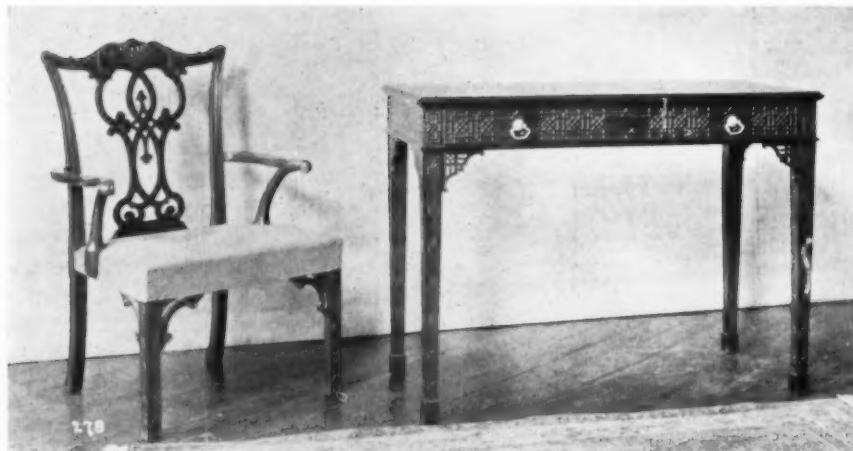
staircases of frailest pagodas.

The Dutch East India Company had introduced lacquer and "china" into the marts of Europe and a fund of decorative motifs were immediately suggested to English designers for their merchandise. The Chinese have ever been ready with facile brush to suit their exports to a people who would not readily understand the depths of their symbolism, and after the cabinet makers' adaptation of the wispy pagoda of tea cups to the backs of chairs, slight resemblance is borne to the structures of Cathay. The feeling of the orient, however, is sustained, and if it were not for the simultaneous influence of the French rocaille and the mingling of these styles, many flighty conceptions of this time



Drawing Room in New York House Where the Forms of the Chinese Taste Are Distinguishable in Side Chairs, Sofa and Secretary of the Late Georgian Period

Harry Allan Jacobs, Architect



Highly Ornamental though Formal Character of Chinese Chippendale Pieces

Courtesy, Irving & Casson — A. H. Davenport Co.

and in bringing into favor the better forms of the exotic types of minor building and of decoration with which his journeys to China had made him familiar. Chambers himself apparently refused to take English use of the Chinese style very seriously, properly regarding it as merely giving a whimsical humor to the setting of English life when he wrote: "These are the toys of architecture, and just as toys are sometimes on account of their oddity, prettiness or neatness of work-

manship admitted into the cabinets of the curious, so may Chinese buildings be sometimes allowed a place among compositions of a nobler kind." So he added to his designs "furniture taken from some models as appear to me most beautiful and reasonable. Some are pretty, and may be useful to our cabinet makers."

The spread of the Chinese fashion in England owed much to Chippendale who often varied his handling of oriental motifs with a subtle use of Gothic and rocaille.

This popular cabinet maker was possessed of a keen sense of what constituted "good business," and with a fashion set by the court and growing in vogue daily, what more advantageous to a maker of furniture than to cater to an insistent demand? So Chippendale applied himself with enthusiasm to the "development" of the Chinese, displaying a marvelous cleverness in adapting Chinese pagodas, mandarins, dragons and bells as ornament to furniture of Georgian design, the result

made gayer and more fantastic by the use of gold and much color. He was particularly successful with his cabinets, sometimes standing and sometimes hung upon walls, popular for displaying the pottery and porcelain which it was the fashion of the day to collect, and these cabinets abounded in pagodas, fringed

Rice Paper Panels in the Manner of Early Screen Painting for Georgian Decoration
Private Dining Room, Colony Club, New York

Delano & Aldrich, Architects



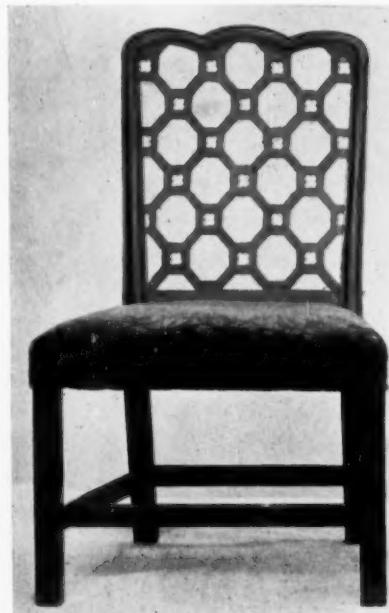
Side Chair in which Simple Right Angle and Diagonal Lines Give the Eastern Feeling

Courtesy, Irving & Casson — A. H. Davenport Co.

about with tiny bells, or sometimes crowned with pediments, broken or complete, in which the classic forms were modified by considerable use of Chinese frets or other ornament.

Chairs, settees and tables in the Chinese manner were characterized by square legs and fancifully pierced stretchers, ingenious employment of frets and much Chinese geometrical pattern introduced in chair-backs and used to fill the areas within the arms of armchairs. Notably prominent in the handling of surfaces is the imposing of angular running ornament in narrow sinkages, and for members in underframing the design is usually pierced, as such members are thin flat strips, vertical in section. A typical adjunct on legged pieces is the knee or bracket used at the internal angle of leg and rail which is characteristic of oriental forms. On simple straight legs, a frequently occurring treatment is the bellied sinkage between two beads or what some recognize as Chinese reeds. Among the eastern forms there is a general lapse into other decorative schools with which the users were far more familiar, and the traceries of Gothic and scrolls of Louis XV are distinguished in connection with the patterns of the Chinese.

Numerous pieces of furniture in this style which are shown in the pattern books which were published by Chippendale and his con-



Diaper Pattern in Back with Square Underframing Marks the Usual Chair

Courtesy, Irving & Casson—A. H. Davenport Co.



Georgian Desk Table with French Dominance of Chinese Principles. Length, 62 inches
Courtesy, Nahon Co.

temporaries are extreme in taste, but very few such pieces are now in existence; perhaps these designs were but whimsical conceits and were never actually carried out. Most of the furniture executed and extant shows the handling of the style considerably modified and restrained, and while losing none of its rich variety and quaint beauty it conformed to the generally accepted standards of proportion and grace which characterized other eighteenth century furniture. English traditions generally held innovations to a straight course.



Association of Lacquer Finish with Pre-Georgian Periods was Partly Responsible for the Fostering of Oriental Design in Chippendale's Time



"Chinoiserie" with the Dignity to Withstand Refinement in Other Pieces in Sitting Room of New York House. Harry Creighton Ingalls, Architect

In the designing of his mirrors Chippendale went to the extreme in the use of motifs—the glass surfaces crossed by numerous fancifully designed strands of ornament and the frames ornamented with long-beaked birds, rockwork and dripping water, Chinese figures of every conceivable sort, temples, and entire scenes from *Aesop's Fables* given a Chinese setting—all this used on mirrors and evermantels carved from pine and thickly gilded, with certain parts highly burnished. Not-

work about the frame.

Along with the "Chinoiserie" made popular by the English court the eighteenth century saw a certain use of the "singeries" style in England, this delightful whimsicality going far beyond even the Chinese in extravagance and showing monkeys playing the rôles of horsemen and sportsmen, giving lawn fêtes and engaged in most of the occupations which concern human beings, all this being given a background of tropical scenery.



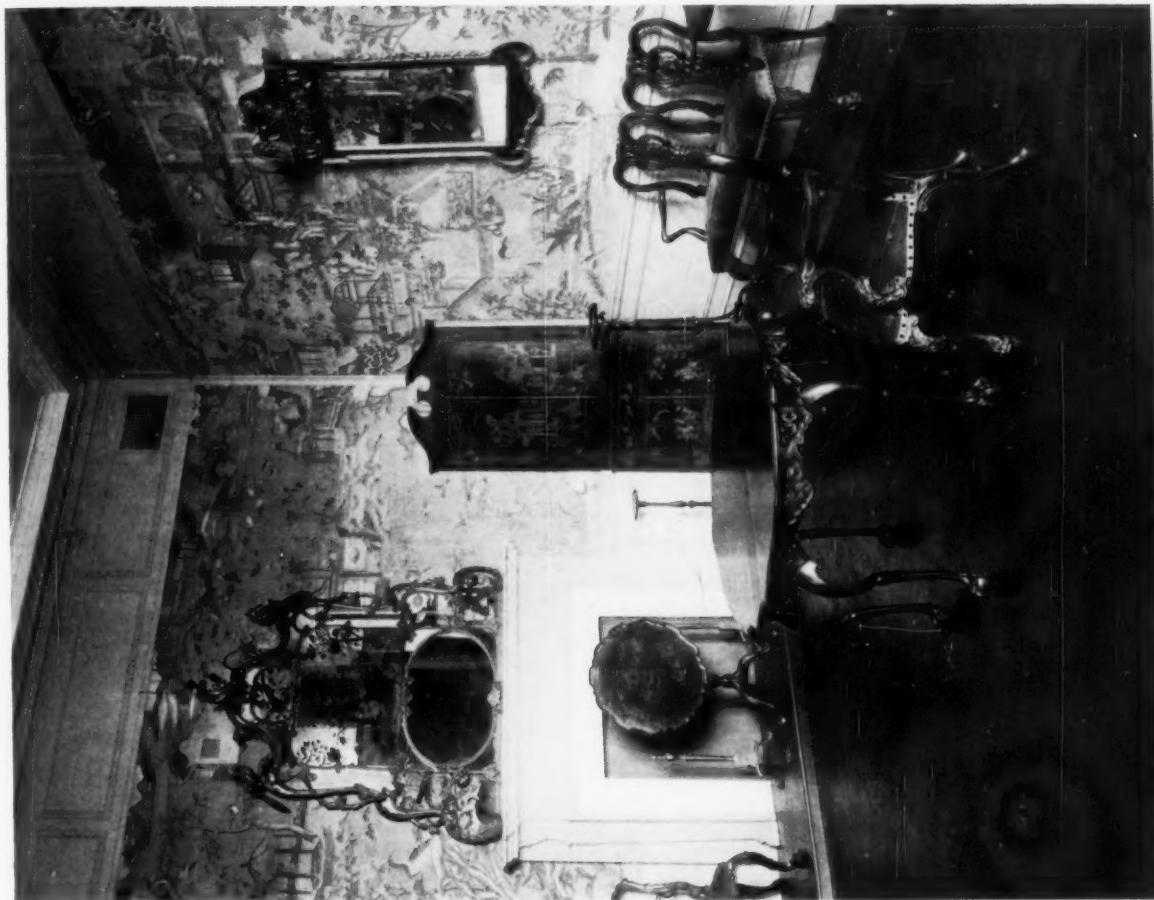
Damask in Delicately Colored Stripes with Pattern of Black Threads
Width shown 25 ins.



The Present-day Use of Chinese Motifs Shows a More Faithful Copy of Original Forms.
This Room has Yellow Walls, Jade Carpet, Flame Taffeta Hangings and Ebony Furniture
Chamberlin Dodds, Decorator

withstanding all this excess in ornament Chippendale's mirrors possessed fine form as a whole—he never lost sight of the essential lightness and grace. His chairs he described as "very proper for a lady's dressing room," while in his book he refers to the Chinese manner as "the most useful of any other"—which perhaps meant "most profitable."

During the late Georgian period, dominated by Adam, the following of the Chinese waned perceptibly. His taste had been formed by a study of antiquity at its very source, and such obvious frivolities as "Chinoiserie" met with but slight sympathy from him. It is said that Adam used the Chinese style but once—in a mirror frame where he placed mandarins holding classic garlands at the top and Chinese bells among Italian arabesque



THE CHINESE CHIPPENDALE ROOM
METROPOLITAN MUSEUM OF ART, NEW YORK

Characteristic Chinese wall paper with green ground from old English house as background
for collection of richly carved late Chippendale originals. Wall paper panels are 9 ft. high





APRIL, 1922

THE ARCHITECTURAL FORUM

PLATE 64

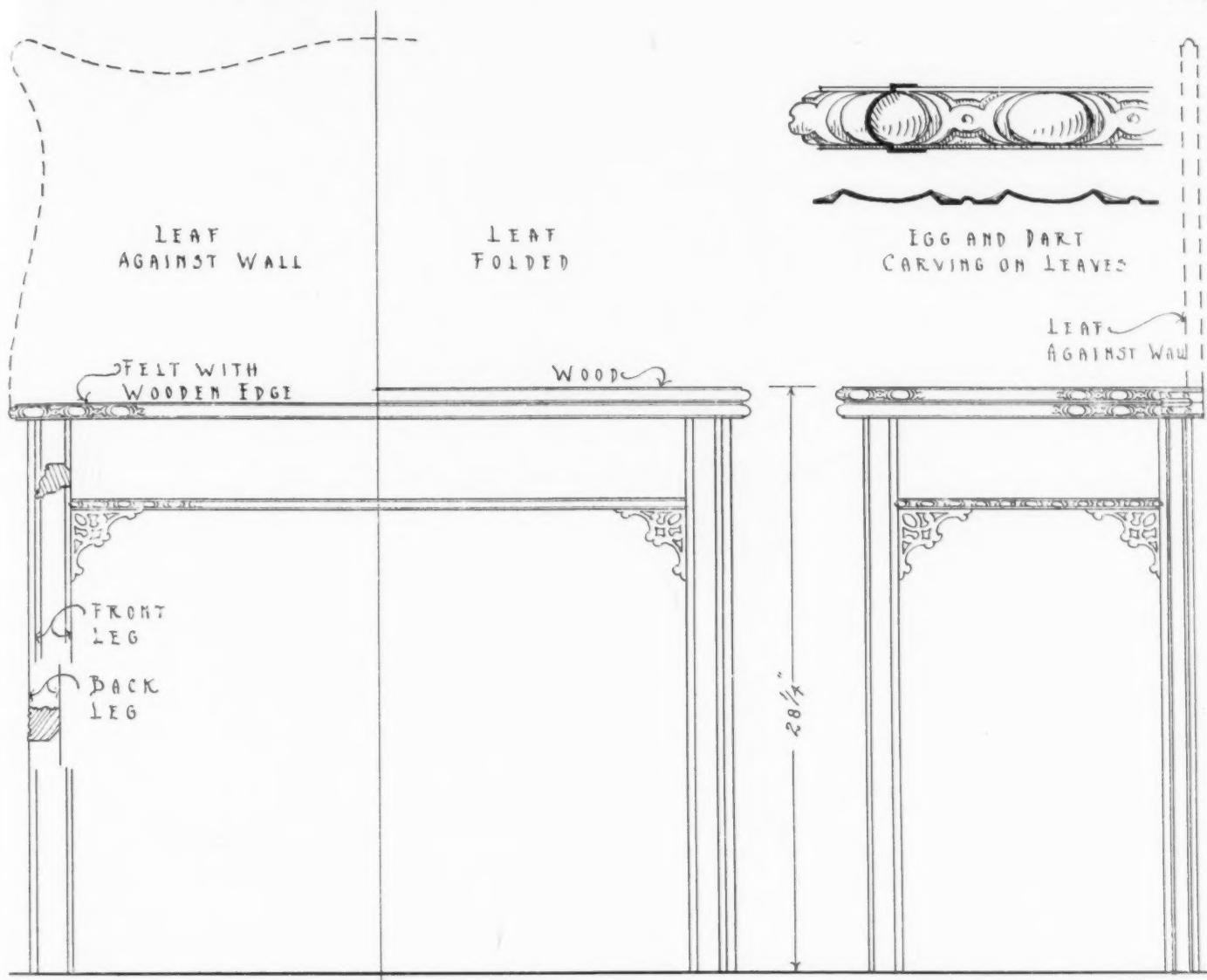


DETAIL OF LIVING ROOM DOORWAY, HOUSE OF HENRY P. DAVISON, NEW YORK

WALKER & GILLETTE, ARCHITECTS

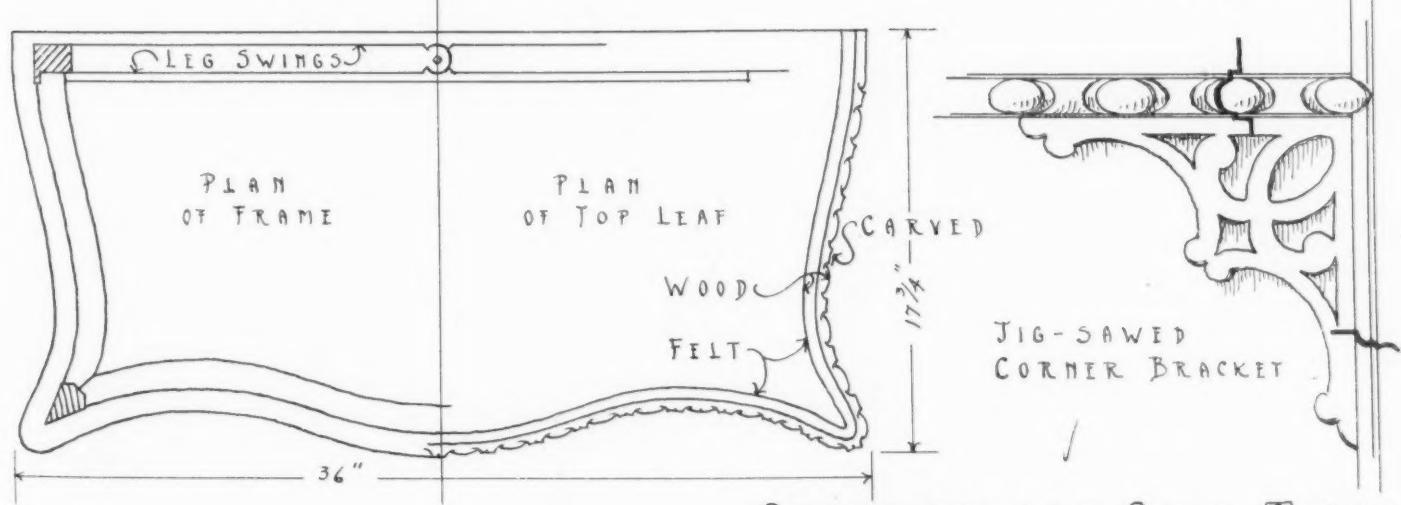
LENYGON & MORANT, DECORATORS

Large scaled oak paneling of pre-Georgian character affording
excellent background for English furniture of various related periods



FRONT ELEVATION

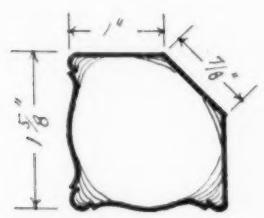
SIDE ELEVATION



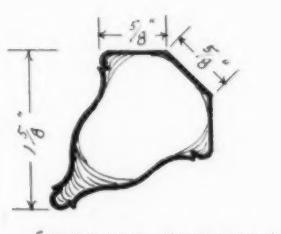
CHIPPENDALE-CARD-TABLE SHOWING CHINESE INFLUENCE

FROM
THE METROPOLITAN MUSEUM OF ART
NEW YORK CITY
ENGLISH - 1760-1770 - MAHOGANY

ELEVATIONS $\frac{1}{2}$ "=1'-0" DETAILS $\frac{1}{2}$ FULL SIZE
MEASURED AND DRAWN BY RACHEL C. RAYMOND



SECTION THROUGH
PACK LEG



SECTION THROUGH
FRONT LEG

This quaintest of all conceits reached England not from Holland but from France, the painters, Jean Francois Clermont and Jean Pillement both worked in England, and the use of this type of decoration—chiefly in the form of paintings upon ceilings or panels—possesses a certain charm.

The vogue of the Chinese has frequently been revived since its beginning in the eighteenth century, and the style affords to architects and decorators today the same opportunities for introducing variety and delicacy which it did two centuries ago. The use of the style offers boundless opportunities for the introduction of superbly rich colors such as buff, yellow, orange, the deep shade sometimes called "cinnabar red" and various subtle shades of green. These colors may be used in the painting of woodwork and carried further in wall coverings and window and door draperies.

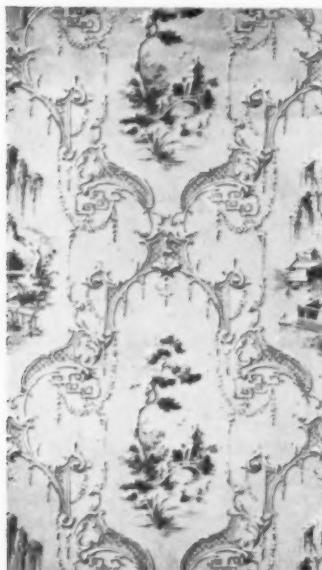
Wall papers in the Chinese taste are being made in numerous different types—rich and gorgeous in a riot of such colors as would create a suitable background for furniture of walnut or mahogany, or in neutral grays or browns, or else so designed that the entire wall spaces of a room may form one continuous picture of Chinese character



Brocade in Galaxy of Color Picturing Birds and Foliage of Eastern Genera. Width, 29 ins.

which in itself would constitute decoration of a high order. Painted woodwork and wall papers which are printed in bright colors are often "toned" and tied together by glazing both wood and paper with a thin varnish mixture which brings something of the mellowed appearance of old Chinese screens. When all-over wall decorations are desired the Chinese patterned wall papers offer a useful expedient, and to a limited extent in small rooms of intimate character architectural use of Chinese pierced fretwork on friezes and dado caps gives a distinct note of quaintness. Fabrics offer added opportunities for the introduction of high notes of decoration, and it is doubtful if at any period the markets have so abounded in textiles of cotton, linen, silk or other materials, bearing patterns so rich and distinctive. These fabrics are full of the splendor of the East.

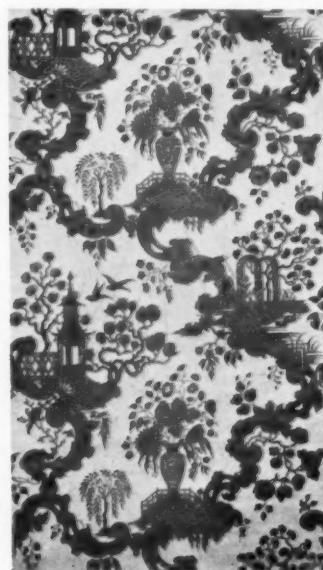
The occasional use of furniture embodying Chinese motifs creates another note of quaintness. Its choice undeniably has its legitimate and special function. Entire rooms thus furnished would be generally unwise, but when used within the bounds of good taste the style holds forth many delightful possibilities which can be attained in no other way.



Wall Paper Showing Temples and Bridge in Rococo Setting



Chippendale Card Table from the Metropolitan Museum of Art, Shown by Measured Drawing on Previous Page



Design Typical of "Chinoiserie" Papers

Wall Papers, Courtesy, W. H. S. Lloyd Co.